
HOUSING AND HEALTH

MILBANK MEMORIAL FUND

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HOUSING AND HEALTH

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THE PROCEEDINGS OF A ROUND
TABLE AT THE TWENTY-SEVENTH
ANNUAL CONFERENCE OF THE
MILBANK MEMORIAL FUND

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MILBANK MEMORIAL FUND

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FOREWORD

WITH the astounding progress which has been made in the control of epidemic diseases during the past half-century, the scope of the public health movement has been broadened to take in new fields of constructive interest. In economically fortunate countries like the United States we are no longer concerned primarily with diphtheria and typhoid fever and malaria. Our major problems today are those relating to the upbuilding of health in a positive sense, by improvements in nutrition, in housing, and in mental hygiene.

It is in these areas that the Milbank Memorial Fund has made its major contributions in recent years. In the case of housing, its influence has been unique, since the Fund has from 1939 on provided continuous and generous support for the Committee on the Hygiene of Housing of the American Public Health Association, the principal organization operating in this field.

The Committee first prepared a report on the Basic Principles of Healthful Housing which has been generally accepted as an authoritative analysis of the fundamental needs to be met.

It next proceeded to develop an evaluation procedure by which a community could appraise the quality of its existing housing in objective quantitative terms. Part I of this appraisal procedure dealt with the general principles and uses of the method. Part II provided detailed information for the guidance of the director of a housing survey, for his field staff and his office staff, in the evaluation of individual structures and the dwellings within them. Part III, published in 1950, was devoted to techniques for the appraisal of health factors in the neighborhood environment. This technique has been formally sponsored by the United States Public Health Service which now provides special courses to train local health department inspectors in its use. These techniques for the appraisal of housing and environment have been applied with highly significant results in more than thirty cities such as Battle Creek, Michigan; Brookline,

Massachusetts; Los Angeles, California; Milwaukee, Wisconsin; New Haven, Connecticut; Panama City, Canal Zone; Philadelphia, Pennsylvania; Portland, Maine; St. Louis, Missouri, and Washington, D. C.

During the past two years, the Committee has prepared and published a series of volumes on Standards for Healthful Housing to indicate the goals at which we should aim in the housing of the future. Volume I of this series deals with The Neighborhood Environment of the Home, Volume II with Planning the Home for Occupancy, and Volume III with Construction and Equipment of the Home.

More than a decade has passed since the Committee was formed and it seemed appropriate to provide an opportunity at the Fund's 1950 Conference for a review of the part the work of the Committee has played in raising the standard of housing in the United States and to examine the outlook for future progress. The section on Housing and Health of the Conference was attended by some twenty-five editors, public health officials, and representatives of federal agencies, housing authorities, voluntary health associations, and schools of architecture and law.

Their subjects of discussion covered the Control of Unhealthful Housing, Objectives of Healthful Housing, and How to Obtain Healthful Housing, including under these headings the appraisal of substandard housing, the "Baltimore Plan," a health department code for occupied housing and how to improve building codes, construction and equipment of the home, the problem of space use in the house and planning the neighborhood, the tenant's role in redevelopment, and, finally, the federal housing program.

The papers presented at this conference and the pertinent discussions which followed are being published in the hope that they may prove of interest to health officials, housing experts, and individuals engaged in private housing developments.

C.-E. A. WINSLOW

APPRAISAL OF SUB-STANDARD HOUSING

M. ALLEN POND

MORE than a decade has passed since the Committee on the Hygiene of Housing of the American Public Health Association undertook the formulation of an objective method for measuring, recording, and analyzing the quality of urban housing.¹ It is appropriate now to take stock of this development and to appraise its significance.

Although tentative schedules had been used in several Connecticut cities during the developmental period, it was not until 1945 that the "appraisal" technique came into general use. Since then more than 150,000 dwelling units in thirty American and Canadian cities are known to have been appraised, and many more places are either planning or about to embark on housing surveys using this method. Also, some of the items in the 1950 housing census — especially those dealing with deterioration — were evolved out of the appraisal technique.

Stimulation for the use of the technique has come from the Committee itself, from the United States Public Health Service, and from planning and redevelopment authorities. Title I of the Housing Act of 1949 created a new market for the technique, and redevelopment agencies in several cities are using it for gathering planning data. In at least twenty cities having redevelopment agencies, there have been surveys using the technique.

There is an abundant literature about the appraisal method, and no effort will be made here to review it. It should be recalled, however, that the schedules which have been developed are built around the "Basic Principles of Healthful Housing,"² and all known items

¹Committee on the Hygiene of Housing: *AN APPRAISAL METHOD FOR MEASURING THE QUALITY OF HOUSING*. New York. American Public Health Association, 1945, 71 pp.

²Committee on the Hygiene of Housing: *Basic Principles of Healthful Housing*. New York, American Public Health Association, 2nd edition, 1939, 31 pp.

of health significance are included. Individual items are rigidly objective, but the schedules can be modified to include additional details of special local interest. For instance, detailed questions on accident hazards have been included in the schedule for use in Battle Creek and Kalamazoo, Michigan. The survey makes possible objective comparisons between committees, and between areas within the same city, although its results may be interpreted in the light of local conditions and standards. Uniquely, the method provides not only for the appraisal of dwelling structure (facilities, maintenance, and occupancy) but also of dwelling unit, and neighborhood environmental conditions.

RESULTS

No matter how carefully developed, a survey schedule is only of academic interest unless it is effective as a tool for obtaining data from which valid conclusions can be drawn. In the field of public administration, a survey instrument is valueless unless it makes possible intelligent, basically sound administrative decisions.

The contrast between full-blown slums and high-class residential areas is obvious to all who can see. However, the delineation of borderline, or blighted areas, is by no means so clearcut. Furthermore, the special conditions that represent various stages of deterioration of neighborhoods, and more particularly of dwellings, are not easily and promptly identifiable.

There is mounting evidence that the appraisal method of the Committee on the Hygiene of Housing makes it possible to accumulate much of the detailed information that is necessary to measure progressive blight, thus setting the stage for intelligent decisions on necessary corrective action. Courts can be given sound, standard objective data for making decisions on enforcement cases. Housing authorities are better able to screen for substandardness the existing homes of prospective tenants. Finally, redevelopment agencies are aided by such data in establishing choices and priorities for redevelopment areas.

Mr. Twichell³ about a year ago canvassed a dozen users of the

³Allan A. Twichell, Technical Secretary of the Committee on the Hygiene of Housing, responsible for preparing the appraisal method.

technique for their frank comment on the value of the method, especially as to its results. The samples included Atlanta, Battle Creek, Los Angeles, Minneapolis, Philadelphia, and St. Louis. All replies expressed satisfaction with the results achieved; and four of the six users indicated without reservation that they found the results trustworthy as a basis for evaluation of housing problems and for the framing of official policy and programs. Four of these cities used the method as a guide to integrate several programs such as city planning, slum clearance and redevelopment, modernization of housing codes, and rehabilitation through enforcement of housing regulations. Of the five users who replied to the question, "Would you use the method again if you had the job to do over?", one was undecided and the other four answered definitely or emphatically in the affirmative.

Although the United States Public Health Service has conducted no such specific inquiry, field and training staff members report that not only health officials but also planning and redevelopment authorities who have used the technique are pleased with it. One important observation is that the use of the method not only provides important technical information but also is the catalyst of effective integration of community efforts to improve the housing situation. The knitting together of various local departments in an attempt to solve a problem of mutual concern is an important and long overdue step forward in public administration.

Reports from all communities in which the technique has been used indicate that a one-sixth to one-third sample has been adequate for redevelopment and slum clearance planning purposes. For health department enforcement purposes, each dwelling unit upon which action is to be taken should be evaluated. In at least eight cities the method is being used routinely by health departments for enforcement purposes.

COSTS

Available data that are comparable show that surveys using the method cost from \$1.98 to \$2.84 per dwelling unit surveyed, including the pro-rated cost of the environmental survey. It is hazardous to compare the per-block costs of environmental surveys in different

cities. As examples, however, in Atlanta the cost was \$6.03 per block for 160 blocks, while in Cincinnati it cost \$24.11 per block for sixty-six blocks. In Atlanta the pro-rated cost of the environmental survey per dwelling unit was \$0.12, while in Cincinnati it was \$0.24. All of these costs include the salaries of regular as well as temporary employees used in the survey.

FUTURE CONSIDERATIONS

Several projects relative to the appraisal method remain to be worked out. Some are scholarly; some practical.

Among the technical problems to be studied, validity and reliability are the most important. For example, no one has assayed the reproducibility of scores by various enumerators on each of the appraisal items. When the method was under development, the Committee staff tried to make all parts of the schedule objective. However, the searching light of the mathematical statistician has not been brought to bear on the finished product. None of us who are familiar with the technique seriously doubt its validity. However, there are scholarly skeptics, and their questions should be tested.

More than a score of local health departments in urban areas are undertaking full scale housing improvement programs. Undoubtedly, the appraisal method has been a significant factor in implementing this effort. However, neither health departments nor other local agencies normally concerned with housing problems have tackled housing improvement programs in rural or rural non-farm areas. Cannot, therefore, this question be raised: Would the modification of the technique, to make it applicable to these areas, encourage improvement action? Sober reflection would seem to require an affirmative answer. Certainly then, this conclusion, coupled with the great need for improved housing conditions in rural and rural non-farm areas, would seem to dictate an important correlative task to be undertaken as soon as possible.

A small minority of the Committee has consistently maintained that an attempt should be made to abridge the schedule. One of the principal administrative objections to the method — and this, always by those who have not used it — is that it is too complicated, too refined (or too detailed), or too costly for practical purposes.

The question is asked: Are there not key items that will give sensitive enough scores for practical planning purposes? Only careful study of the correlation of individual item scores with total scores will answer this question. The staff has pointed out that abridgement of the method will not be accompanied by comparable reductions in survey costs. Furthermore, they insist that abridgement is likely to result in making the method of much less general value.

From a more pedestrian standpoint, there are three obvious jobs yet to be done with the appraisal technique: (1) Summarization and analysis of all experience with its use up to the present; (2) modification of the method for use in rural areas; and (3) use of the method in epidemiological studies of the relationship between housing and health. Both the Committee and the Public Health Service have been interested in tackling these problems. As of the moment, however, no specific action has been taken. However, plans are being laid for the use of the technique in connection with epidemiological studies sponsored by the United States Public Health Service in Charleston, West Virginia; Topeka, Kansas; and Phoenix, Arizona. Modified schedules have been used to collect data in home accident investigations in Kalamazoo, Michigan, and in connection with the historical smog incident in Donora, Pennsylvania.

SUMMARY

An appraisal technique developed by the Committee on the Hygiene of Housing has been adequately tested as an administrative tool in at least thirty North American cities. Its users state that it serves its purpose well, promotes effective collaboration of various local agencies concerned with one or another facet of the housing problem, and makes possible the collection of definitive information for housing, redevelopment and health authorities. Some observers insist that it is one of the most significant administrative tools that has been put in the hands of city officials. If this be true, the Committee, by this one contribution, will have earned the lasting gratitude of local public leaders.

DISCUSSION

DR. C. E.-A. WINSLOW: The reports on which Mr. Pond's paper has

been based, appear in three parts. The first volume discusses principles on which the appraisal method is based, and the nature and uses of the method. The second is a detailed appraisal of the dwelling conditions which results in a series of penalty scores. In this scoring system the poorest housing rates the highest score. The second part takes the form of three manuals; one for directing the survey, one for field procedures, and one for office procedures. The third part deals with appraisal of the neighborhood environment, using the same method.

You will recall that the history of the project exemplifies a most interesting cooperative effort of a voluntary and an official agency. This appraisal form has had major continuing support from the Milbank Foundation. Once completed, it was turned over to the United States Public Health Service which is fostering its use and providing training centers in Atlanta, Georgia; and Syracuse, New York, for health department inspectors and others responsible for the application of the procedure.

MR. CARL FEISS: I should like to comment on Mr. Pond's references to the use of the APHA technique in relation to slum clearance and urban redevelopment. A great many cities have come to us requesting authorization of the use of this technique (under the Housing Act of 1949, Title I) in making both preliminary and more detailed and final surveys of slum areas.

We have definitely encouraged its use for detailed surveys, particularly in areas of mixed dwelling and other land uses, where the information about the quality of the area is too complex for any "windshield" survey or anything of that kind. On the other hand, we are recommending that the *general* identification of slum area be done on the basis of the Housing Census of 1940 (until such time as the Housing Census of 1950 will be available) using existing facts and figures on housing conditions rather than going into the detailed technique of the appraisal method.

We have found that the cost estimates from localities requesting use of this technique vary a great deal. In a number of instances we do have cities proposing to spend \$1.50 per dwelling, and are approving any survey within a percentage of the total allocation in the locality, which generally runs between \$1.50 to \$1.60. Many times, however, the cost estimates have been much higher than the figures you have given here (\$1.98 to \$2.84).

Every community ought to be familiar with the technique of the APHA survey. We are thoroughly in favor of sending research workers to the training schools (and have done so). Very interesting results should come out of the use of the survey in establishing local relationships between a substandard area and a standard area (as is being done in Providence, Rhode Island, under the guidance of Mr. Wetmore). We want to do everything we can to encourage the appraisal method within the limits of the cost that the localities concerned can afford.

MR. M. ALLEN POND: Regarding the wide range of estimated cost per dwelling unit, I think when \$1.50 is mentioned there may be some hidden contributions by community agencies quite apart from the Title I monies. On the basis of our own experience we have collected cost data from many of the cities in which the appraisal has been used and the range was as stated. Those figures are all-inclusive. They represent not only extra monies appropriated for survey, but also the salaries of people who are regularly on the staff of whatever agencies may be involved, as well as the expenses of field work and office procedure.

DR. E. R. KRUMBEIGEL: It is rather hazardous to use the 1940 Census data to delineate marked areas in a community. For example, the definition of "in need of major repairs" was very loose and subject to a great variety of interpretations by the enumerators. It will be interesting to see how closely the 1950 Census Housing data correlate with the APHA technique.

MR. HOWARD G. BRUNSMAN: I have no objection that the instructions to enumerators in the 1940 Census were inadequate. In 1950 we did take proper measures to give each enumerator better and more complete instructions, and we are hopeful that the results will be far superior to those of 1940. The facts and figures should serve as some clue of the less satisfactory areas of a city but none of us at the Census Bureaus feels that they should be considered in any way a substitute for this much better and much more thorough appraisal of housing.

MR. FEISS: We recognize the inadequacies of the 1940 Census and all we expect from its data is the very general identification of substandard areas. We at all times urge that there be additional information and warn every locality concerned that they must do some up-to-date checking.

MR. W. PALMER DEARING: I wonder if we could get a brief description of the training program for those who are to use the more elaborate technique.

MR. POND: The training program that the Public Health Service has established for people who will use the technique is aimed, primarily, at training the supervisor or director of local surveys. As Professor Winslow mentioned, the two principal training centers are Atlanta and Syracuse.

The training program covers a five-week period, during which the technique is described in detail, item by item, to the classes, which are always, by the way, small. I think we usually have not more than five or six in a training class. Each individual is given an opportunity to score houses, dwelling units, structures, and neighborhood environment, under supervision; he is given an opportunity to do the office work, as well as the field work, is shown exactly how each office procedure is utilized, and is given an opportunity, also, of comparing his results on given dwelling units with those of other members of the class.

The classes at the training centers are usually made up of representatives of health departments and planning agencies; local housing authorities have sent some representatives to the training centers. The Public Health Service makes no charge to a community for the training course. The community, however, must underwrite the salary, and travel, and per diem expenses of the students.

In addition to the five-week training period, which, as I say, is designed for directors, we also have shorter courses for the general description of the appraisal technique for interested public health or other local workers.

We have, for instance, set up one-week courses at Topeka, Kansas, which is another one of our training centers, on the general subject of housing sanitation, during which two days will be devoted to the appraisal technique.

In addition to the work going on at the formal training centers, we have, during the past few weeks been initiating training activity in California at the request of the State and local health departments. At that particular series of sessions, there were twelve local representatives learning how to use the technique. In other words, we have taken the school out to the West Coast, rather than bring the students to Atlanta or Syracuse.

We have had, in addition to the regular instruction, training-trip films and various descriptive materials prepared which are useful in the training program. Further than that, we do provide, within the limits of our personnel resources, after-visits by the staff to the communities which may be setting up surveys. That has been done in several communities in the past few years.

DR. W. PALMER DEARING: Then the training procedure for the actual surveyors, the actual house visitors, is up to the supervisor.

MR. POND: Yes. We feel that in five weeks the kind of intelligent student who undergoes our training is reasonably well equipped to train other people in the use of the technique. It has been generally agreed, I think, that you can train people to use it in a week or ten days without any great difficulty. The supervisor's responsibilities, however, are so much larger that he must have a very much more comprehensive understanding of it.

CHAIRMAN WINSLOW: No modern health department would dream of controlling restaurant sanitation by waiting until complaints came in. Every health officer has his record of every food establishment. The same thing ought to apply to housing. Conducting the health department's business in housing mainly on a complaint basis is utter folly. The idea is growing that it is a definite responsibility of the health department to have this kind of knowledge about problem areas in the city.

MR. RICHARD STEINER: As we have provisions for housing law enforcement, public housing and redevelopment; as we do more and more slum clearance and more and more enforcement, we come nearer to the day when we have to have more refined techniques of evaluation. My reaction to the whole APHA appraisal method is that it is a magnificent job. In this day and age of too little too late, it is one of the few examples of too much too soon. I think we are getting to the point where we are going to need it, and need it very badly in resolving some of these questions, particularly where we have multiple programs going on in the same city.

CHAIRMAN WINSLOW: Our primary objective is to sell to the health officers what we believe to be a primary responsibility.

MR. WILLIAM LESCAZE: Is there any way of putting in a few words

what is in this appraisal technique? I mean the classifications or the alleles of exploration which are being tabulated.

MR. POND: I will describe it in a little more detail. As Professor Winslow has indicated, penalty scores are assigned for various items. Generally speaking, a satisfactory house will have a dwelling penalty score of the order of forty or less. The newer and better housing would be zero, or maybe five or ten. That is one aspect of it.

Another factor which is tremendously interesting and very useful in practice is the so-called "specific deficiency of health" items, lack of water supply, let us say, lack of electricity in the dwelling unit, lack of decent means of sewage disposal, safety hazards, fire hazards, lack of dual egress from second floors, and so forth.

Those specific penalties represent basic deficiencies which, when present by themselves, with no other deficiencies, make the house sub-standard, and from the health standpoint, unsafe, or unhealthy.

There are occupancy characteristics which will give penalty scores also. Total crowding on the basis of more than $1\frac{1}{2}$ persons per room merits a penalty score. We have another way of getting at the crowding factor by measuring the number of persons per sleeping room. There is also an area-crowding factor — minimum sleeping area per person. The doubling of basic families in a dwelling will result in a penalty score.

MR. LESCAZE: What do you do about the environment of the dwelling?

MR. POND: There is a table for evaluating environmental factors such as land crowding. Crowding more than a certain percentage of the land with structures draws a penalty. Land-crowding factors include daylight obstruction, population density, residential building density, or total coverage by structures.

Then come hazards and nuisance from the transportation systems. Blocks on a high-speed expressway without proper safety precautions incur penalty scores. The presence in the neighborhood of railroad switch yards will cause it to be penalized a certain number of points. Natural factors of this sort, we feel, are significant from the standpoint of environmental hazards.

The community also is penalized for not having a sewage system or public water supply, or streets and walks.

MR. WILLIAM H. SCHEICK: Is the best score always minus?

MR. POND: No, always plus. The possible score is zero.

CHAIRMAN WINSLOW: Perhaps I ought to make this perfectly clear. All of the factors mentioned, and many more, go into the penalty score which can range from zero to one thousand, but which usually ranges from zero to three hundred in common practice.

Of these scores of particular items, ten have been picked out, as being sufficient deficiencies in themselves to give the health department, under normal conditions, the power of condemnation. They are scored as part of this total score to which I referred earlier, but these ten items can be lifted out as a unit constituting basic deficiencies and very serious hazards.

MR. POND: We have information coming in periodically on the use of this technique in cities, other than the thirty we know about definitely, where we haven't realized its use had been authorized. The volume on the appraisal technique has been translated into Spanish and used in Latin America. An interesting survey was made of Panama City, which is the first the technique has been applied in an area of that type. The results should be of great interest to the World Health Organization and others interested in technical assistance programs. Incidentally, the scores were perfectly appalling, among the highest we have ever seen.

MR. HAROLD S. BUTTENHEIM: The scoring requires a good deal of the element of personal judgment, does it not? To what extent do you depend on a single enumerator?

DR. KRUMBIEGEL: During the six-month period when the appraisal method was being used in the City of Milwaukee, we rechecked every tenth dwelling unit by an independent appraiser, and he had no access to the records of any other man; they were astoundingly close. In fact, they were identical in every item, except for minor variations in deterioration. That's about as objective as it is possible to get something like that.

MR. LESCAZE: Do you have any idea of the number of questions or the number of items that have to be checked?

MR. POND: There are thirty in the dwelling and twenty-four in the environmental survey.

MR. THOMAS H. CREIGHTON: On the environmental question, how much is that related to opinion? How comparable would that score be in relation to the scores in another city?

MR. POND: Reasonably comparable. Under the heading of land crowding (covering of land by structures), you can, from maps, or by actual visual inspection, get percentages there. That is no problem. You can also get accurate population densities, for instance. I think, in general, it is safe to say that the environmental survey can be conducted in different cities, and comparability between the cities can be measured.

MR. JOHN M. DUCEY: Have there been any cases where different cities gave different weights to different environmental factors?

MR. POND: No, the only instance would be where there are special local problems, and there you might get additional requests for local interest only. We have encouraged many of the cities to add special questions.

For instance, it is not pertinent, to measure the malaria mosquito breeding in Duluth, Minneapolis, or Milwaukee. It is of importance in cities in the South. They may add a separate environmental hazard line to their schedule and assign penalties for that.

LAW ENFORCEMENT AND THE "BALTIMORE PLAN"

HUNTINGTON WILLIAMS, M.D.

THE provision of better housing, particularly for the less privileged segments of our population, like providing more adequate medical care facilities for the same group, is generally in this country being recognized to be a public health responsibility of prime importance. It was at the Annual Meeting of the Milbank Memorial Fund in March, 1939, that Professor C.-E. A. Winslow made this clear to a group of us who are grateful to him for his inspiring leadership.

One of the speakers at the recent American Public Health Association meeting, two weeks ago in St. Louis traced, rather tenuously, a thread of housing law and lore back to the Code of Hammurabi. I believe for today it will suffice if we go back only as far as the historical volumes published in the last century by Peter Force lead us, namely, to the following portion of the martial law as established for the Colony of Jamestown, in Virginia by Sir Thomas Gates, Lieutenant-General, on May 24, 1610:

Section 25. Euery man shall haue an especiall and due care, to keepe his house sweete and cleane, as also so much of the streete, as lieth before his door, and especially he shall so prouide, and set his bedstead whereon he lieth, that it may stand three foote at least from the ground, as he will answere the contrarie at a martiall Court.

This quaint language will show that from the very earliest days in colonial Virginia it was a legal duty for a man "to keepe his house sweete and cleane." Alas, even a casual glance at the slums and the blighted areas in our cities and villages today shows how far we have departed from this early Virginia mandate.

However, it is of some interest that in Baltimore the public health significance of housing was recognized as far back as 1850, for we

find a quotation in the Annual Report of our City Health Department for that year taken from the first report of the Committee on Public Health of the American Medical Association. After describing the Baltimore slums of 1850 this report states

Fortunately, such localities are not numerous, but why allow them to exist at all? The cupidity of landlords should never be able, in a well regulated town, to furnish the means of pestilence and death . . .

A half century goes by, and in April, 1901 the Assistant Commissioner of Health of Baltimore is speaking before a local medical society on the distribution of tuberculosis in our city. He says that

. . . he cannot but feel that the work of the Health Department in the future must be directed especially along this course (the control of tuberculosis by attacking unsanitary conditions of the soil and overcrowded houses, and) that we are . . . to bring about a better condition of the houses . . .

A START IS MADE IN 1939

Well, two half centuries have gone by in Baltimore, punctuated by public appreciation that something should be done to provide better housing. Finally, in 1939, the Baltimore City Health Department chose to embark on a frontal attack by the path of housing law enforcement in relation to our worst rock-bottom slums. Just back of the city jail a small nest of these, known as St. John's Court, was demolished under the provisions of the existing City Building Code, after these miserable "dwellings" had been declared unfit for human habitation by the Commissioner of Health.

At that time our Health Department was encouraged by a general reaction to the effect that we should have been doing this kind of thing for a long time. Many of the recipients of public assistance under the City Welfare Department were tenants in our slums and the Welfare Director joined with the City Health Commissioner and a very socially-minded editor of the *Baltimore Evening Sun* in a series of visits to our worst areas, accompanied by a press photographer.

PUBLIC INSTRUCTION SHOCKED THE COMMUNITY INTO ACTION

For about eighteen months the slums in word and picture were

carried to the front doorsteps of the citizens on the editorial page of this newspaper, and we have considered this remarkable support as a very essential foundation-stone for the later success in what is a rather new field of public health endeavor. In effect the public was shocked into action.

A strong ordinance on the hygiene of housing was very carefully prepared and enacted in 1941. In effect it is an extension of the age-old nuisance abatement function of all local boards of health that goes back into our earliest legal history. The new housing ordinance authorized the city health authority to adopt rules and regulations deemed necessary to make the enforcement of the ordinance effective "for the better protection of the health of the city." Both owners and tenants are responsible under the ordinance for the maintenance of sanitary dwellings; and rules and regulations were adopted and promulgated in 1942.

It was early obvious that great profits were being derived by the owners of slum housing, especially in our segregated Negro areas, and we had the inevitable court cases which resulted in the State Court of Appeals of Maryland acting to uphold the constitutionality of the ordinance in June, 1943.

OFFICIAL AGENCIES COORDINATE THEIR EFFORTS

As the years went by the Mayor's Office took increasing interest in supporting the law enforcement efforts that were being made by a well-knit team of city departments. An inter-department Housing Law Enforcement Committee was established and began working on a block basis, with guidance and assistance from the Commission on City Plan and the Redevelopment Commission of the City, the City Law Department and the City Housing Authority.

PROGRESS MADE, 1945-1950

While many individual cases were taken to the local police magistrates in the early years, a very great advance was brought about in 1947 by the establishment of a central Housing Court, which was set up and is functioning extremely well in handling cases involving violations of the ordinances pertaining to housing and to sanitation. At about the same time the City Police Commissioner assigned a

SHARP STREET AREA



BEFORE



AFTER

special inspector to organize a group of sixteen sanitary police officers and these, increased about a year later to twenty, have devoted full time to the correction of sanitary conditions and housing violations in their respective police districts. The special sanitary police officers from July, 1947, through September, 1950, have brought about the correction of 108,443 violations in housing. It should be stated that a considerable number of these corrections represent multiple violations in a given dwelling, as well as revisits to certain dwellings.

The special Housing Court, under a very remarkable magistrate who is known for being both firm and fair, has handled 4,429 cases in court. Of these 2,309 were fined. Because of the existence of this court the records show that for each case handled in the Housing Court compliance with notices to correct unsanitary conditions has been achieved in ten additional instances without the need of such court action. The Housing Court sits two afternoons a week and is of the very greatest assistance in the enforcement of the general sanitary ordinances of the City, which are of prime importance to the Health Department.

From the beginning of the block by block Housing Law Enforcement program in September, 1945, through September, 1950, a total of ninety-six blocks have been completed in bringing houses up to code requirements out of 119 blocks that have been inspected; 3,260 properties have been brought into compliance which include a total of 3,862 dwelling units. More than 15,000 persons live in these properties. For the period September 1, 1945, through September, 1950, formal notices to comply with sanitary ordinances were sent to 3,770 owners, and during the same period, to 3,334 tenants.

COSTS

City Health Department appropriations for its Division of Housing for 1950 are \$70,620 for the salaries of one director with a corps of seventeen sanitarians and six clerks and stenographers. The Health Department funds for closely related work were \$37,470 for community sanitation and \$38,280 for rodent control; both of these were largely involved in housing law enforcement; and in addi-

tion there was a modest expense account of \$1,500. These funds constitute the nucleus of the work but are supplemented very considerably by appropriations made for it in the City Police Department, the Department of Public Works and the Fire Department. For 1950 a total of \$62,400 was appropriated for the work of the sanitary police officers and additional unspecified funds for the part-time work of the magistrate and the operation of the special Housing Court.

THE SO-CALLED "BALTIMORE PLAN" TODAY

The so-called "Baltimore Plan" as now constituted is one of three programs employed in Baltimore to prevent the growth of blight and slums and to correct the conditions under which they flourish. It operates side by side with the Baltimore Housing Authority and the more recently established City Redevelopment Commission. It is unique in that it can not only require improvements in sanitation and structures but also can encourage higher standards of living. Through enforcement of health, sanitation, building, fire, and zoning laws, the forces of municipal housekeeping are set in motion in a coordinated manner. Educational, civic, and recreational agencies also provide further stimulus for improved living conditions.

The program is based on the premise that every citizen in our City is entitled to a minimum standard of decency for shelter and that substandard housing should not be allowed to continue. Obvious areas of neglect by owners, residents, and municipal authorities are investigated from the point of view of enforcing existing laws on a census tract and block basis. The housing law enforcement program, which gradually evolved as a cooperative effort in which the forces of the Health Department, the Department of Public Works, the Fire Department, and the Police Department were directed toward the elimination of slums, is now referred to widely as the "Baltimore Plan."

In application, the "Baltimore Plan" has consisted of directing the efforts of owners, tenants, municipal authorities, and civic groups toward eliminating slums. The greatest responsibility for improvement is vested in the owners, and the tenants who live in

areas where the program is conducted. All owners and tenants are notified of existing housing, sanitation, fire, building, and zoning violations and are given a specified time in which to comply with notice requirements. During the process of enforcement, better owner-tenant relationships are encouraged. Owners are taught the value of continued maintenance to properties; tenants are educated to better ordered and more hygienic living habits. A variety of techniques have been devised to gain compliance with notice requirements and constant supervision of workmanship is maintained. However, when friendly, persuasive efforts break down, the Housing Court stands ready to carry out the dictates of the law. Housing law violators brought before the Court are not only taught a healthy respect for the law but are instructed in the purposes of the program. Some of the regular aspects of the work are the following:

Owners are required:

- To maintain every dwelling and every part thereof in good repair and fit for human habitation

- To eliminate overcrowding of dwelling units within structures and of people within dwelling units

- To eliminate all fire and safety hazards and correct all structural inadequacies by

- Maintaining heating equipment and electrical wiring in good repair,

- Removing rotted, rat-infested wooden fences and frame additions,

- Eliminating blind or inadequately lighted and ventilated rooms;

- To provide minimum essentials of sanitary housing by

- Replacing illegal outside toilets with adequate, serviceable inside toilets,

- Installing adequate water supplies in kitchens,

- Maintaining all sanitary fixtures in proper repair,

- Providing adequate drainage of premises,

- Eliminating and preventing rodent and vermin infestation.

Occupants are required:

- To keep in a clean condition that portion of the property which they occupy or over which they have exclusive control;

To provide conforming containers for the disposal of garbage and trash;

To remove all accumulations of garbage, trash, and debris;

To store all furniture, fire-wood, and other material so as to eliminate rat harborage;

To eliminate all vermin infestation.

Planned cooperative assistance is furnished by municipal and other agencies as well as by civic groups, as follows:

Alley, street, and footway defects are corrected;

Nuisances in the community are abated;

Efficient City services are re-established where needed;

Educational programs in sanitation are conducted in neighborhood schools;

Assistance in the relocation of families (necessitated through enforcement of health and zoning laws) is rendered by the Baltimore Housing Authority and related social agencies;

Specific problems arising from any phase of the enforcement program are solved through discussion with related departments or agencies;

Civic support and constructive program direction are stimulated by citizen groups;

Neighborhood groups are encouraged to utilize vacant lots for recreational facilities; and

Municipal recreational facilities are provided.

SLUM REHABILITATION IS NO SUBSTITUTE FOR PUBLIC HOUSING OR REDEVELOPMENT

The Baltimore program for rehabilitating some of our worst blighted areas and slums has received considerable attention during the past two years and unwarranted claims have been made in regard to its achievements. First of all, in the words of Mayor Thomas D'Alesandro of our city, it should be pointed out that the Baltimore Plan

is designed to relieve somewhat the worst slum conditions until such time as the slums can be torn down and satisfactory housing built . . . the standards set up in the housing code are as high as are feasible, but even so, well below those of decent and adequate

housing. For example, the code requires the installation of an inside toilet fixture but it does not require the provision of a bath, because there is no space for a bath in most of our slum dwellings. Even the small amount of space needed for a toilet must come from some other room already too small and crowded.

The Baltimore Plan might be compared to first aid administered in the temporary absence of a doctor which would not be necessary if the doctor were present to begin with and which in no way eliminates the eventual need for the doctor's services.

Our Law Enforcement program does not add one dwelling to our supply of low-rent dwellings. In fact, a strict Law Enforcement program reduces the total supply of dwellings since some buildings must be completely demolished.

The Mayor continued to point out that the risk of strict enforcement is piling up more and worse over-crowding in the slums that remain with us, and cautioned against any claim that the Baltimore program of Law Enforcement constituted a substitute for more adequate slum clearance, redevelopment, or low-rent public housing programs.

We have come to appreciate that it is next to impossible for any community to make a solid approach for better housing unless there is well integrated community planning that will include law enforcement, which is the basis for the public health approach of the Baltimore Plan, public housing which provides new low-rent dwelling units, a sound redevelopment program that combines official condemnation procedures with non-official financial support into a community housing plan, with related official support from the Zoning authority, the Department of Public Works, and the Police and Fire Departments.

In other words, public housing and redevelopment include true slum clearance, while the Baltimore Plan here under discussion is almost entirely an effort at rehabilitation. I trust the difference is clear, for it is important.

THE FUTURE

The Mayor of Baltimore is so enthusiastic in supporting the Housing Law Enforcement campaign in our City that the program is

being reconstructed just now and reinvigorated for more intensive efforts. The Mayor has appointed a Citizens Advisory Council and has established the Office of Housing and Law Enforcement within the Health Department under the direction of G. Yates Cook, a most inspired and effective worker in this field. It is planned to expand the activity of the Baltimore program and to bring into it the City Education and Recreation authorities. Just now a pilot project is being established for a sixteen block slum area in East Baltimore and it is expected that a documentary talkie movie will record the efforts to be made in this special area before, during, and after the actual working period, so that a careful evaluation of the program, its techniques and its results may be available for the first time for subsequent study. It is expected that this movie will be handled by Encyclopaedia Britannica Films. You will be interested to know that the officers of the corporation recently established in connection with this proposed documentary film include the president of a title guarantee company, the president of a mortgage company, the president of a prominent bank, the treasurer of a savings and loan association, the Professor of Education at the Johns Hopkins University, and the counsel of the Legal Aid Bureau of our City.

In closing, may I say that it is my firm conviction that any community suffering with slums or blight that can find one or two or more leaders who are anxious and enthusiastic about working on an important civic task in a hard-headed and practical way will never have cause to regret going forward in what to me seems to be a prime responsibility of local government, the provision of better housing.

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DISCUSSION

MR. ASCHER: Dr. Williams, was it an historic accident that the police department instituted this corps rather than the fire department, which, in some cities, would be assumed to be the more logical place?

DR. WILLIAMS: Well, the fire department has a fire prevention code and squad that is working in these areas all the time, but they focus their attention on the prevention of fires, quite rightly. The general community was very unhappy at the delays in the use of the local magistrates and persuaded the Governor to set up this special court, which is quite unique, and very, very effective. It sits in the central police building, where its headquarters are. The police commissioner is very unhappy about having specialized police officers given details of this kind, but the results are very, very fine.

MR. POND: Is the property re-assessed on the basis of these corrections? Does the assessed valuation go up and the tax rate also?

DR. WILLIAMS: The rent control director normally permits a higher rent, but I haven't noticed any change in the assessment.

MR. STEINER: I should like to comment just briefly on Dr. Williams' remarks, as a Director of the Redevelopment Commission in the same City, and emphasize very strongly again what Dr. Williams said, to the effect that the public health housing redevelopment and law enforcement programs are not competitive, being rather complementary, and I think that this is very definitely felt at the staff level, is being increasingly felt at the commission and policy-making level, and is beginning to be pretty broadly accepted on the general community base.

I think there is more and more concern not as to whether we ought to have all three of these approaches to the slum problem, but rather as to whether we are using each to best advantage, and how we can be

certain that we are doing so. We have recently started to improve our work in that direction under the guidance and coordinating sponsorship of the city planning commission.

I think, perhaps, also, it may be a worthwhile observation to say that there seem to be three primary uses for the Baltimore Plan approach.

One is to contain the blighted areas where they are now, to prevent the further spread of slums and blighted areas.

Two, to improve very small pockets of blight which are not susceptible to project area treatment. I am thinking particularly of alley houses, maybe ten or a dozen of them in back of good houses on the front streets. Certainly, you cannot do a project-type thing in that situation.

Thirdly, there is this job that Dr. Williams referred to, in quoting the Mayor, the job of first aid to the really bad areas that ultimately are going to have to be cleared.

A HEALTH DEPARTMENT CODE FOR OCCUPIED HOUSING*

E. R. KRUMBIEGEL

DR. WINSLOW asked me to discuss a health department code for occupied housing, and, naturally, that raises two questions in one's mind. First of all, why do we need a housing code, and second, if we do need one, why should it be enforced by the health department?

I think there is a corollary question which we should consider, and that is, is poor housing directly related to increased morbidity or mortality rates?

Now, we do know definitely that in slum areas and sub-standard housing areas, certain death rates tend to be somewhat higher than they do in the community as a whole. That is true for such things as tuberculosis rates, pneumonia death rates, death rates due to rheumatic heart disease, infant mortality rates, and home accident death rates.

However, I think it is true that we do not know if housing is the direct cause, in itself, of these increased morbidity and mortality rates. It is extremely difficult to show a direct relationship between the house itself and increased morbidity or mortality rates that may be manifested among the occupants of such housing.

It is extremely difficult to devise techniques which will separate the conditions of the house itself from certain other factors characteristic of the occupants, such as their income, their nutritional status, their heredity, their intelligence, or their education.

This we do know, that we would not care to live in slum dwellings. When we wonder why we wouldn't want to live in slum dwellings, I think we would say, that slum dwellings are socially intolerable. When we say that they are socially intolerable, we mean essentially that slum dwellings are incompatible with good emotional health for the occupants.

Informal Talk.

In other words, a housing code represents an expression of the level of social consciousness of the people of a community in housing matters, and that level of social consciousness is tempered, to a very marked degree, by various economic considerations.

Then, why do we have slums and substandard housing today? I think, basically, we have housing falling in these categories because we have failed to adequately control the facilities, maintenance, and occupancy of occupied housing in the past, and the only way that we can control those factors in the future is through the use of a housing code, which can serve several functions:

First of all, it can assist us in cleaning up some of the worst mistakes of the past, but I don't want to go into detail on that. That function is along the lines mentioned by Dr. Williams and Mr. Steiner just a few moments ago.

Secondly, and this is probably the more important aspect, it can certainly prevent, or at least slow up, the development of objectionable housing in the future.

A CASE FOR THE HEALTH DEPARTMENT

Since it seems we do need a housing code, whose province is it to enforce such a code? There are several possibilities. Some of them have been brought up in discussion here this morning. Someone brought up the matter of the fire department. The fire department is engaged in limited inspection of housing in most communities. It is interested not only in the protection of property, but in the protection of life. Still, its primary interest is not in health, but in preventing fires first, or putting them out once they have occurred. It is rather important, too, to realize that fire departments, generally speaking, have in their employ personnel that is not especially well qualified to do an over-all housing code enforcement job.

What about the building inspection department? Basically, the building inspector is interested in structural safety and in sanitary facilities that go into new construction. In most communities, the building inspector employs rather highly specialized personnel. For example, he has electrical inspectors, and he has plumbing inspectors, and he has general construction inspectors, and he may have boiler inspectors, and elevator inspectors, and so forth. Most of those

individuals have a trade experience background in the field in which they eventually serve as inspectors.

Building inspection departments are accustomed to dealing with strict specification codes, and certainly they seem to be too concerned about materials, rather than the functional utility of dwelling units.

In some places, it has been suggested that a new department of building control be set up, and that this department could enforce a housing code. It would mean setting up new administrative machinery and securing new personnel, although the objectives of such a department would overlap or coincide with those of many other departments. There would be many legal obstacles to the creation of such a department. Much state law would have to be changed, certainly a great number of local ordinances, which would take a great deal of time, added to the fact that the real effectiveness of such an over-all department is yet to be determined.

That brings us, then, to the health department. The function of the health department is to protect and improve the physical and emotional health of the people in a community, and the health department is already dealing with many problems related to physical and emotional health in occupied housing. Unfortunately, in too many places, even today, it is on a more or less complaint basis.

Most courts in this country have interpreted health codes very liberally. There are a great many decisions that have held that it is not necessary to show that undesirable conditions are a direct cause of disease, but only that they interfere with the reasonable comfort and enjoyment of people. Therefore, it seems to me that the health department can most logically enforce a housing code.

MILWAUKEE EXPERIENCE

In Milwaukee prior to the year 1945, there was a building inspection department, and it served several functions. Primarily, it controlled buildings during the original construction period, during a period of remodelling, and as controller during a change in occupancy use of a building (not if one family moved out and another moved in, but if there were a change from commercial to residential use, or residential use to industrial use).

It performed no regular inspection of existing one and two-family dwelling units, and very infrequently of such places as rooming houses. It was responsible for condemnation of buildings which were obviously grossly unsafe structurally.

The fire department did voluntary inspections of one and two-family dwelling units, in that it inspected attics, cellars, and garages, and would even go through the entire dwelling upon request, looking mainly for fire hazards.

However, it did make regular routine inspections in hotels, rooming houses, and tenement houses in an attempt to uncover fire hazards. But even in rooming and tenement houses, inspections were limited to so-called public portions of those buildings. No attention whatsoever was paid to sanitary facilities, the number of occupants, and many other factors which make up the total housing picture.

Prior to 1945, the health department also inspected hotels and licensed rooming houses. It did a fairly complete job in that field, controlling occupancy, and many other things that one ordinarily would like to see controlled in such places.

In tenement houses, health department activities were limited to the so-called public portions of those buildings. In one and two-family dwellings, only complaints were answered. In other words, the total program was sketchy. Each department enforced its own code. There was much overlapping and duplication of effort, but certainly blight was not being prevented or cured.

One factor stood out in the whole picture, and that was the long period of time that elapsed between the initial inspection of a building opened for the first time to human occupancy, and its eventual condemnation 75, 80, or 100 years later. The condition of such a one or two-family dwelling during this period of prolonged occupancy seemed to be the responsibility of no one in particular, unless the structure eventually reached the point where it was in danger of collapse, or unless the building inspectors visited it on a complaint basis. As I have indicated, the program was grossly inadequate. In 1944 it was decided to do something about it.

So, in 1945, a housing code was adopted by the City of Milwau-

kee; and simultaneously the Health Department instituted a systematic inspection and code-enforcement program. This code, adopted in January of 1945, applied to all dwelling units, regardless of date of construction, size of building, number of dwelling units, or whether occupied by the owner or a tenant.

We attempted to set relatively high standards in our code. For example, we even went so far as to say every dwelling unit must contain a bath private to the dwelling unit. There were a few exceptions. For example, in very small dwelling units consisting of two rooms and a so-called efficiency kitchen, and where children did not occupy a dwelling unit, two such units could share a single toilet and bath.

There was a good deal of criticism for attempting to set such high standards. It was said that they could not be enforced throughout the community, but we felt it was better to fail administratively to enforce the code fully than to be unable to do a really effective blight-prevention job, because of too low standards in the areas where extensive rehabilitation was indicated.

On advice of legal counsel, all the provisions of the code did not become effective until January 1, 1948, even though the code was adopted in January of 1945. It was felt that in adopting a code requiring high standards for *all* dwelling units regardless of date of construction, or of whether or not they may have been perfectly legal at the time of construction, ample opportunity must be given the owner to comply with such drastic changes.

The code provided for condemnation of unfit dwelling units following administrative hearings, if the owner chose to request an administrative hearing, and following that the owner is afforded an opportunity to appeal to the courts by writ of certiorari.

RESULTS

I should like to describe the code-enforcement program in Milwaukee, in the year 1949, because it happened that in 1949 we worked in intermediate areas in which it was obvious to us, on the basis of studies using the APHA appraisal technique, that dwellings were not bad enough to require demolition, reconstruction, or

conversion of the land to other usage. In other words, these were areas in need of protection.

From 1945 to 1948 we had worked in the worst areas on somewhat the same basis as Dr. Williams has worked in Baltimore. We didn't try to enforce the complete code. As a matter of fact, we couldn't, because all of it was not legally applicable, for reasons that I have already mentioned.

Although in some of those areas, on the basis of appraisal studies, only demolition or conversion of the land to other uses would solve the problem, we did feel that a great many of the very worst conditions could be corrected.

By 1948 we had begun to shoot both barrels of the gun. We felt the best targets would be in the fringe areas; that is, on the fringe of the areas that were in need of demolition. During that year, our sanitation personnel inspected 19,400 dwelling units, not all of them completely.

Even though the housing section of the Bureau of Environmental Sanitation was hampered by lack of staff, 105 city blocks were covered completely in 1949. Rather rapid progress was possible here, because the areas were not the very worst.

These 105 blocks contained somewhat more than 3,400 dwelling structures with somewhat more than 6,800 dwelling units, and housed in excess of 23,300 people. As a result of inspecting these 3,400 dwelling structures, we issued 1,259 orders. An order may have concerned one thing which had to be done, or it may have listed forty things to be done. By the end of this same year, 1949, 903 orders had been complied with. Of the approximately 300 remaining, some were issued too late in the year to enable the owners to comply by the close of the year. Only seventy-five court cases resulted from the 1,259 orders. There are several reasons for that.

First of all, in Milwaukee, the health department has a reputation for following through its orders to the bitter end, and this reputation is based on years of experience. If there isn't compliance within the stated period of time, owners are called in to the central office of the health department for an administrative hearing, after which, if

they still fail to comply, their cases are referred to the courts.

It is rather interesting that even in an area of so-called marginal or fringe type, there were 118 dwelling structures that were in such bad condition that it was thought that probably the best solution would consist of demolition of the building.

However, an owner cannot be forced to tear down a building under the code, unless he has failed to comply with an order. It is rather interesting to see what happened in these 118 instances. These were the rotten apples in the barrel that certainly, unless culled out, would have caused the neighborhood to deteriorate at an accelerated rate.

Nine of them were placarded and razed by the end of the year; nineteen were placarded and vacated; twenty-six were placarded but not entirely vacated.

Of the nineteen dwelling structures that were placarded and vacated, and of the twenty-six that were in the process of being vacated, all will eventually either be razed or rehabilitated. Owners don't continue to pay taxes on improvements of the land without being able to derive income from it.

In twenty-eight instances, the structures had been completely rehabilitated, and in thirty-six others, they were in the process of rehabilitation, or were to be rehabilitated as soon as all the occupants had vacated the structure.

Costs

A question has been raised about the cost of doing housing inspection. A few months ago, we chose, at random, a number of dwelling units in rather bad condition, for which rehabilitation orders had been issued in the year 1948. Thirty-five that had undergone rehabilitation were submitted to the tax assessor. The tax assessor was asked to give us the increased assessment, if any, on those buildings, solely as a result of the improvements.

It is interesting that the assessments in Milwaukee on improvements on old structures are depreciated by the assessor to the same degrees as the structure itself. That means that if \$1,000 worth of improvements were put in, the assessor would put them on the roll

on an old building at anywhere from 30 to 45 per cent of their value.

In 1948, the assessment on the land was \$46,000 for these thirty-five structures, and in 1950, it was \$44,400. In other words, the assessed value of the land had decreased by \$1,600, but the improvements which had been assessed at \$64,000 in 1948 were assessed at \$102,400 in 1950. That represents an increased assessment of \$1,100 per dwelling, which must represent in the vicinity of \$2,500 worth of improvements per dwelling.

These varied all the way from one in which the assessor had not gotten around to assessment, to the highest in which any assessment had been increased, which was \$6,400. The lowest was \$300.

On the basis of the total number of rehabilitations, it has been estimated that in a period of five years the housing section will be self-sustaining. In other words, there is enough revenue coming in on the basis of the tax rate times increased assessment on the improvements so that, in the first year, there is a loss; in the second year, there is a lesser loss; by the fifth year, the program will pay for itself, and thereafter will accrue financial benefit to the City. When we reach that point we hope to enlarge the staff.

HOUSING CODES

Now, a few words about housing codes. In my opinion a housing code should be one that establishes reasonably high standards for housing, but at the same time does not make practical attainment of its standards impossible.

I have already mentioned why I believe the standards should be set at reasonably high levels. Some time ago I was asked by Dr. Winslow to serve as chairman of a subcommittee to formulate a model code for occupied housing that might be adopted in communities throughout the United States, if they chose to do so. It would fix the owners' responsibilities for facilities, maintenance, and occupancy, and the occupants' responsibilities for maintenance and occupancy. It deals with the sharing of space in rooming houses and hotels and is a performance type code, consisting of fourteen sections with additional interpretive material for the benefit of the

enforcing officers. It is anticipated that this model housing code will serve as a useful guide to health officers who undertake to prepare a local housing code, based on sound health reasons, as a part of a local general health or sanitary code.

DISCUSSION

DR. WINSLOW: The entrance of the health department into the housing field may seem rather novel, but there do seem to us to be several good reasons why the development of this kind of control is desirable.

In the first place, we have in many cities — for instance in New York — the fantastic situation in which there occurs a complete division of responsibility for tenements and for one and two-family houses; secondly, there is the fact that the health department has in its sanitary inspectors and nurses the one force that is constantly and routinely in touch with all the families, and with all the dwellings in the community.

MR. DEARING: I should like to suggest, Mr. Chairman, in regard to Dr. Krumbiegel's first point concerning the relation of health and housing and particularly the ability to measure the relationship, that we health officials need not be on the defensive.

Poor people live in poor houses because they are poor. They also receive poor diets; and so many other factors enter in that we are faced with the problem of a mixed classification.

DR. KRUMBIEGEL: The reason I mentioned it here was because in many communities, when the question of adopting a housing code comes up, and the health department is being considered as the agency to enforce its regulations, many people feel it is primarily a building problem and enforcement ought to be placed in the building department.

I am not so much concerned as to where enforcement is placed as long as the job is done, but I tried to point out that I consider the health department is the one best equipped, or should be best equipped, to do the job.

PLANNING THE NEIGHBORHOOD

FREDERICK J. ADAMS

THE Subcommittee on Environmental Standards of the Committee on the Hygiene of Housing of the APHA began its work on the basis of the original report of the Committee on the Hygiene of Housing with an analysis of the thirty basic principles that were spelled out in that early report, in terms of what they meant to the developer, to the architect, the planner and the public official.

Because of the pressure of the need for the analytical technique, we found it necessary to rely on standards based on the consensus of professional opinion represented on the Committee rather than on extended research throughout the country. From the standpoint of development of penalty ratings, both for housing and environment, that was sufficient for the purpose and the basis for those techniques probably would not be drastically modified in the light of further research.

But the survey techniques did not provide a positive guide to private developers or public agencies, to professional city planners or architects, in the planning of new residential areas. They were negative standards, in the sense of a yardstick of things that might be wrong with a residential community, rather than a program of possible action for sound development.

The purpose of this report entitled "Planning the Neighborhood" is to provide a check list of items to be considered by the developer and the planner. It gives criteria for determining the relative importance of various factors based on the best standards available, or where these were lacking, on consensus of informed technical advisers.

As we stated in the foreword, this volume should be considered not as a manual of design, but rather as a formulation of those principles and standards which the technician will use in combina-

tions to be determined by him in the course of his design solution, and as a frame of reference against which the non-technical policy-maker can test the adequacy of solutions finally presented to him by the technicians. I cannot over-emphasize that.

This manual does not make it possible for a non-technical group, by use of slide rule or computing machine, to develop a sound residential neighborhood pattern, but does establish a set of criteria against which such a group can measure the adequacy, in general terms, of a particular proposal for residential design. It cannot be considered as having general application to all residential developments under all varieties of conditions. Good judgment and creative imagination are essential for proper application of the standards. We have examples in some areas of relatively low population density, where the particular type of building, in most cases obsolete, has been planned in such a way that the standards for light, air, and orientation are not met. We have other examples where perhaps, according to our standards, the land is overcrowded, but where, due to imagination of design, the architects and site planners have been able to achieve standards of light, air, ventilation, and view which may compensate, to a large extent, for the somewhat higher density in terms of population per acre.

The first section of this report deals with the basic requirements for site selection and a consideration of neighborhood, a concept which has been criticized by some planners; but I think you will find that the justification for use of the neighborhood as a basis for environmental standards is spelled out in a satisfactory way. We maintain that satisfactory standards for the environment of housing must deal with the smallest geographical unit to include basic facilities required by the average family for its comfort and proper development. There has been general agreement that the minimum planning unit is the area in which residents may all share the common services, social activities, and facilities required in the vicinity of the dwelling. There is a close relationship between the housing unit and neighborhood facilities.

Communities such as New York City have special problems such as transportation, but there are definite patterns of neighborhood

relationship between people's homes, the schools their children attend, the shops at which the housewife makes her purchases, the cultural facilities, and the employment areas for the working members of the family, which do come within this general concept and make possible a determination of space requirements, which is one of the major concerns of this report.

Too frequently those concerned with the standards are inclined to set not only a double standard, but a multiple standard for different conditions. They would specify that people living in residential and suburban communities should have a certain amount of floor space per dwelling, that they should have a given amount of space around the building, and that they should have playgrounds and parks, but when they start re-developing some of the blighted areas of our larger cities and cannot adhere too strictly to these standards, they usually feel that they have to set up a new set of lower standards keyed to the conditions with which they are dealing. One of the strong points about this report is that it takes the position that while we may occasionally have to qualify our standards in certain situations where, due to high land values or political pressures or other reasons, we cannot meet them, yet the standards should not be set lower for all areas of increased congestion. If there is any section of a city that needs adequate standards for open space, it is the area where people, living cooped up in high density tenements, depend entirely upon public facilities for recreation, and do not have the same opportunities as the suburbanite to get out into the open country. To set a lower standard for that group, we feel, is absolutely the wrong way to approach the problem.

We have to do all we can to recognize the greater need of low-income families, particularly in the high density residential developments of our urban areas, for adequate space, not only around the building, but within the neighborhood. The section dealing with neighborhood standards discusses fully the basic requirements for site selection, the neighborhood as a basis for environmental standards, the controlling importance of site selection, and the essential physical characteristics of the site, as well as the availability of sanitary and protective services, freedom from local hazards and

nuisances, access to community facilities outside the neighborhood, and essential city and district facilities.

In the same way, the section dealing with the development of land, utilities and services goes into detailed discussion of desirable standards for drainage, water supply, sewerage disposal, refuse removal, and so on.

The third section dealing with planning of residential neighborhoods has an important section on criteria for selection of dwelling types, and some discussion of site design requirements and the density of residential development. Neighborhood density is really *the* important factor in recognizing that actual load on the land is not nearly as important as load on the neighborhood. A high density of residential development on a particular lot, if it is supplemented by adequate facilities for parks, playgrounds, automobile parking spaces, and so on, may be a desirable development, but however low the density on private land, if it does not have community facilities, then it is lacking in a desirable neighborhood pattern.

The fourth section covers the provision of neighborhood community facilities. It goes into the question of schools, recreation facilities, neighborhood shopping, and health service facilities.

The fifth section lays out a pattern for vehicular and pedestrian circulation, with particular emphasis on traffic hazards, from the standpoint of health and safety, with some general recommendations on the organization of the circulation system, the design of streets, walks, and parking spaces.

Finally, the sixth section analyzes the coordination of housing elements. The determination of neighborhood density limits is set forth in tables; also the density of neighborhoods of diversified dwelling types, the range of different neighborhood sizes, and the problems of obtaining desirable neighborhood density are discussed.

The contents of this volume I have found invaluable in the teaching field, from personal experience. Previously, students or practitioners seeking desirable standards for various aspects of neighborhood planning, would be referred to some text, or to professional associations with rather disappointing results. While there may be some difference of opinion among the experts on some of

these recommended standards, I think that "Planning the Neighborhood" does comprise the most comprehensive and objective correlation of the various criteria proposed at the present time. It is not a planning machine for turning out good plans. It is a handbook which, used by the intelligent and imaginative technician, can aid him in keeping his designs within a desirable framework, from the standpoint of space requirements, facilities, and the general objectives of the sound neighborhood planning.

DISCUSSION

DR. KRUMBIEGEL: It seems to me that in the majority of American cities, the planning staff, even though it may be comprised of very excellent individuals, develops an eventual sense of frustration. They rarely have an opportunity to lay out a plan for anything more than a little segment that is going to be redeveloped. They rarely have an opportunity to plan a city, or the growth of a city, because annexation always occurs in little piecemeal packets. Some developer buys two, three, or five acres, and while he may comply with area requirements and such considerations, yet you seldom get good neighborhood planning. Have you any ideas on how such a problem can be solved?

MR. ADAMS: I feel that we are somewhat in the same position that the health officials were perhaps twenty-five years ago. The powers, through state legislation, are pretty much available for planning commissions to do a much better job than has been done in the last forty or fifty years in expanding communities. The real job ahead of us is to educate planning and other public agencies to the proper use of those powers. I am a little tired of hearing planning commission members say, "If only we had more power, we could do a good job," when I feel sure that most communities, in states with reasonably good enabling legislation, have the power to guide subdivision development in conformity with an over all plan.

Unless a community has some control over areas four or five miles beyond its corporate limits, it will be unable to influence subdivision development, but within the corporate limits of a community, where there are expanding subdivisions, it is quite common for a planning agency to require that they fit into a general neighborhood plan. The Federal Government has incorporated in the re-development act, in

Title I of the Housing Act of 1949, the requirement that the re-development project shall fit into a general pattern. We do have some joint city-county planning commissions now, but unfortunately, it is not a simple procedure in a good many places. It is pretty well recognized by professional planners as one of the uncrossed current frontiers.

MR. POND: Your statement that planning officials ought to be educated to the fact that they have authority is significant, but it is equally important that the public recognize that such authority exists.

MR. FEISS: At the present time in this country there is only one official and independent metropolitan planning agency, in the Atlanta, Georgia, area, in which parts of three counties are involved on a very comprehensive basis. A similar situation is about to be established in Central Western Pennsylvania.

The Housing and Home Finance Agency is encouraging a number of agencies and groups in an effort to get some kind of local cooperation and cooperative agreements established. The League of Municipalities in North Carolina is one such agency. In Puerto Rico there is an almost ideal set-up. There we are hoping that we can get some kind of demonstration of metropolitan planning which might be an example to the rest of the country. We are working, with very limited legislative means at our disposal, with many public health as well as planning problems which are peripheral. I urge that this be one of the areas for possible future consideration by health officers, because it is a matter which can be very effectively studied and possibly even solved.

The facts and figures that will be coming out on urbanized areas in the new census will highlight a good many of these conditions. If we can correlate substandard housing with the urbanized areas which are within counties but outside of incorporated towns and controls, we may have a much sounder basis on which to ask for changes in legislation and increased powers on the part of the health authorities and the planners. I think it is an important thing for us to be looking forward to in the near future.

Many cities are using their extraterritorial planning and zoning powers very cautiously because of political implications. At a recent meeting of the Association of State Planning and Development Agencies, this matter was discussed in great detail. State planning and development officers have agreed that they ought to offer every assis-

tance to such areas for planning, direction, and guidance. But they, too, are limited in terms of staff and budget to do a very effective job.

MR. BUTTENHEIM: Has consideration been given in this report to establishing different standards for different types of communities? The particular point I have in mind is in regard to net dwelling densities.

MR. ADAMS: We do have in our neighborhood density column a sliding scale of standards for different sized neighborhoods from 1,000 persons up to 5,000 persons. We say that in the one-family attached dwelling that the desirable standard is five families to the acre. We feel that there shouldn't be more but that there couldn't be fewer. There is a distinction between quoting a standard and stating the optimum which is easily confused in reading a document of this sort.

Now, the question comes up as to whether you should tailor the standards to meet the special conditions of a metropolis such as New York, or should set what would normally be a reasonable standard and say that departures from it would have to be taken into account.

MR. HENRY S. CHURCHILL: The whole question of density, as we know, is a very complex one. A distinction can be made, however, between heavily urbanized centers and suburban communities, but the danger of setting any kind of a standard is that there must always be departures from it. I do feel that perhaps this volume might have made some differentiation of that kind, particularly because it is more important for the development of the smaller cities on the fringes of our big cities than it is for re-development of large centers, where the problems are very peculiar and have to be studied in relation to land values and a great many other factors.

MR. POND: From a public health standpoint, it would be awfully difficult to find justification for a variety of standards for varying kinds and types of communities.

MR. ADAMS: Zoning regulations are a reflection of the standards that a particular community wishes to set for itself. You cannot apply these various factors to every community down the line without taking into account special local attitudes.

THE PROBLEM OF SPACE

ELEANOR M. WATKINS

SPACE, nearly as relative as time, is as difficult to define, and the definition of "adequate space in the home" is dependent on very personal reactions. I was born in the Middlewest; I actually like openness, and have claustrophobia in a Cape Cod cottage. Yet, many people like low ceilings and snugness. Many housewives *do* prefer streamlined ship's galley-kitchens with everything in reach; I like one that necessitates roller skates from the stove to the refrigerator. Such differences, however, are of interest only to the individual concerned and it has been said very aptly that "the discussion of personal tastes is not only unfruitful, but the hardest thing in the world is to understand, and, understanding, to allow for and forgive other people's tastes and other people's vices."

Nevertheless, there must be a size compromise between those houses that Dr. Winslow has termed "parsimony," with rooms pared down to provide just the environment for breeding a race of neurasthenics and a huge drawing room in an enormous house just as likely to produce neurasthenics in a world which no longer considers "housework" a fit occupation for anyone but the housewife.

On the assumption that houses designed merely in terms of cubic contents of specific rooms are unsatisfactory, we attempted to define this compromise-household space by choosing the minimum of furniture necessary for the logical activities of most households and fitting sufficient room around each article to use it comfortably.¹ Even a dog is entitled to turn around three times before he settles into his bed. To this quantitative space was added the necessary storage space for any objects or materials required for each activity, such as phonograph records, or vacuum sweepers, or clothing, or fuel. Obviously, if seventeen square feet of space are required to

¹PLANNING THE HOME FOR OCCUPANCY. Chicago, American Public Health Association, Committee on Hygiene of Housing. Public Administration Service. 1950.

use an easy chair, double the space is not necessary for two adjacent chairs, and deductions were made accordingly. Theoretically, the grand total should indicate overall dimensions for living space for varying sizes of family. We believe that it does. Dividing this total space into rooms is quite a different matter in which personal preferences may be satisfied, although the actual number of rooms is considerably influenced by the size of the family, which is another aspect of the problem of space.

I know of only one country, Sweden, which not only limits the number of occupants per room, but makes the prescribed occupancy possible for all families, and in a typically Swedish way. Sufficient space always has been, and still is, a problem in Sweden which has rather extreme overcrowding. In fact, it may be said that the overcrowding was responsible for the entire Swedish social program, inaugurated as a definite population policy to encourage a higher birthrate which meant a number of social reforms favoring the family. The latest housing regulations forbid more than two persons to a room, excluding the kitchen. But at the same time, the maximum rent paid cannot exceed 20 per cent of the annual income. Thus, a family with four children and an annual income of 6,000 Swedish crowns (c.\$1,200) must live in a flat of three rooms and a kitchen, and must not pay more than 1,200 crowns a year rent, but the rent of such a flat is probably 2,000 crowns per year. The Government makes family rent allowances of 130 crowns per child per year, 520 crowns per year in this case, which still makes the rent 1,480 crowns instead of 1,200 crowns. So, an additional rent allowance of 3 crowns per square meter of floor space is made to meet the difference.

Also, in connection with the new housing regulations, the Swedes have designed an excellent standard kitchen which is compulsory in all new construction. A carefully worked out chart for storing all utensils and supplies to make the best use of the storage space in this kitchen is given to all new tenants. To an American, accustomed to finding a ball of twine, a bunch of old grocery slips and some tacks in a trim box labelled "coffee" in an American kitchen, it is amazing that this chart is followed. No doubt, such methods of

handling the problem of space wouldn't work in this country, but they do in Sweden.

Our computation for minimum floor space essential for the basic household activities of sleeping and dressing; personal cleanliness and sanitation; food preparation and preservation; food service and dining; recreation and self-improvement; entertaining guests; housekeeping; care of infants or the ill; circulation between the various areas of the dwelling; and operation of utilities require:²

400 square feet for one person
 750 square feet for two persons
 1,000 square feet for three persons
 1,150 square feet for four persons
 1,400 square feet for five persons
 1,550 square feet for six persons

These calculations of space certainly do not represent luxury requirements; they are the minima for unhampered use of necessary furniture and equipment; for protection against accidents, since one of the most important criteria for judging whether a dwelling is properly laid out for circulation and is of sufficient size is its provision for safety and protection against accidents; and for a certain amount of privacy which most individuals desire. These space allotments are considerably greater than provided in most recent building either public or private, but are not suggested for legal condemnation proceedings. They must be clearly distinguished from

²These figures, broken down by activities and number of persons, are as follows:

<i>Activities</i>	<i>Number of Persons</i>					
	1	2	3	4	5	6
Sleeping and Dressing	74	148	222	296	370	440
Personal Cleanliness and Sanitation	35	35	35	35	70	70
Food Preparation and Preservation	8	76	97	97	118	118
Food Service and Dining	53	70	91	105	119	146
Recreation and Self-Improvement	125	164	221	286	357	383
Extra-Familial Association	17	17	34	34	51	51
Housekeeping	48	91	110	127	146	149
Care of the Infant or the Ill		124	124	124	124	124
Circulation between Areas	20	20	35	35	45	45
Operation of Utilities		20	20	20	20	20

The space allotments for any given activity do not represent a room, but are estimates of the number of square feet required for a given need. Combination into rooms is a subsequent process, a question of design, and it is for the architect to subdivide on the basis of the size and needs of the family.

detailed regulations embodied in a building code and are to be considered as departures for future building regulations and occupancy standards, and are applicable to all types of households.

It is of passing, and possibly only academic, interest that the increase in required space is mathematical: for more than two persons, 250 additional square feet are necessary for one additional person, but only 150 square feet for the second additional person. In other words, families of odd-numbered persons pay a premium.

We may be inclined to place too much emphasis on privacy — a matter so personal that it is all but impossible to allow for and forgive other people's tastes. There are some who probably shudder at the thought of trying to read, or even relax, in a room in which two youngsters are playing and a radio is loudly advertising the latest fortified cereal, but there are also many people who never want to be alone and are actually unhappy at the very idea of retiring from all the excitement to meditate. However, as someone once wrote, it would indeed have been a pity if the little boy who sat and watched an apple fall, had been forced into supervised, cooperative play.

It is easy to say that space allotments in all recent building are too small. Anyone can do that by observing the little boxes that materialize or by glancing at the floor plans in the real estate section of any newspaper. What to do about it is another matter. When adequate space is weighed against present building costs, the scales do not nearly balance, and the question becomes one of making the most out of the least. Overcrowding is a mis-use of space, not only because the typical small two-bedroom house, built for the "average" American family of 3.6 persons, is so often occupied by one of the many families which does not comprise this arithmetical average. There is one way to make a great deal more out of very little. The crux of the problem is not so much the number of rooms or even the size of the rooms, but the lack of adequate storage space. Adequate storage space is a necessity and not the luxury it has too often been considered. Complaints of those who live in insufficient space, or even those who have plenty of "overall" space nearly always are concerned with no place to put the sheets and towels,

or the winter clothing, or the roller skates, or the tins of soup, or old magazines that some member of the family is saving to clip. This is almost entirely a question of design, and the more restricted the available space, the more skillful must be its organization even if efficient planning can never wholly substitute for reasonable dimensions. As a suggestion, when it is impossible to provide a specified amount of overall space, if there were no stinting on the storage space alone, the problem would be nearly half solved.

In the discussion, I hope that there may be suggestions to help solve the other half of the problem.

DISCUSSION

CHAIRMAN WINSLOW: I think we, on the Committee, feel that this is one of the most vital problems we have ever tackled. If our forefathers could return and see some of the houses being built today, they would probably say they would prefer to have an outside privy and no washing machine than have as little space to turn around in. I think we have lost as much in the last fifty years in livability as we have gained in gadgets.

It seemed very essential to see what basis could be found for space standards. There is nothing to be gained from ceilings over a certain height. In considering floor space we have created no standard for any specific rooms. We think that should be left to the architect and people's tastes. Some may want small bedrooms, almost Pullman spaces, and a large living room. Some may be satisfied with a small living room and ample space in the bedrooms.

We have treated the problem of space on the basis of various functions that must be performed in the home, and established our standards for it accordingly. First, the size of the furniture needed was established, and the space necessary to circulate around those was figured. Then the storage space necessary was calculated.

Thus, for any given function, total figures were obtained, then corrected and reduced by the overlapping of circulation space. This was done by actually plotting out rooms and seeing what the best grouping of furniture would be to make it possible to move around and use each piece of furniture without any waste space.

Since home accidents, the principal cause of death between the ages

of 2 and 15 years, are intimately related to overcrowding, we think living functions are an excellent basis for space standards. We have tried to stress the importance of mental hygiene aspects of house-keeping, which requires about sixty hours a week of the home maker's time.

Now, this process has led to total space standards which are about 20 per cent above what we are permitted to build in the best public housing projects, and probably 100 per cent higher than a lot of the building that has been done outside our cities recently. We have been accustomed to saying that you could hardly distinguish a house from a garage. Now, it goes much further, and you cannot tell which is the house and which the letter box.

We hope you question and criticize this line of approach, because it is a new departure, although we believe we have arrived at pretty sound basic standards.

MR. CHURCHILL: I think that this is a very important document that the Committee on the Hygiene of Housing has produced, and I think it is particularly important at this point in our economic progress, or lack of progress. The relationship between costs and space is, of course, an obvious one, and the only way that we can improve the space provisions in dwellings, which are governed by Federal procedures, either by the conditions of the Federal Housing Administration's loan policies, or by the enactments of Congress limiting the Federal Public Housing Authority, is by public pressure, and by an understanding of health groups and all kinds of people that the effects of space on the welfare of the people who live in these houses are many.

The public housing program, for instance, started out with fairly reasonable space standards. They weren't quite as good as those we have suggested in this report. As Dr. Winslow said, this report recommends space standards about 15 or 20 per cent over the ones set up by PHA.

Due to the rise in building costs over the last two years, and particularly since the start of the Korean War, PHA space standards have been reduced to a point well below what they were originally. Because this has resulted from a direct cost-space relationship, the only way that present standards can be remedied is for people interested in housing in this country to persuade Congress to be realistic and raise unit cost allowances. I don't think it can be done unless reports of

this kind are made public, and a great deal of public emphasis is given to the space aspects of subminima housing.

MR. SCHEICK: In the technological field, there is always the possibility of reducing costs if you are thinking in terms of materials in combination with structural elements, rather than the manufacture of little pieces, but in order to achieve it, there must be some very tangible goal in the nature of a plan, or the units of a plan. For example, could not the principle of the Swedish unit kitchen plan be applied to other parts of the house with any success?

MRS. WATKINS: It probably could be in Sweden. I don't know whether it could be here or not.

MR. SCHEICK: The unit plan gives us something definite to work on, and it also suggests standardization within the principles of certain work being done in the technical field now, and also suggests principles of flexibility in construction.

On one occasion we observed that the space usage within a house was blocked by the location of heating equipment. Heating equipment which can be hung in an attic is available and it is possible to free even nine square feet of space for other uses. Sometimes the key location of that space makes it work more than just the nine square feet appears to be.

There are some aspects of space usage that, correlated with specific plans, and possibly the idea of unit plans in the total plan, might offer some solution.

DR. KRUMBIEGEL: The subject of space cannot be divorced from the question of facilities, because they are so intimately related. For instance, the over-all size of Swedish houses is much smaller than in England, but the English do not provide central heating. It is pathetic to go into some of those big English homes where there is a living room plus a parlor and large bedrooms, only to find the entire family huddled around the fireplace in the parlor, the father listening to the radio, and the children trying to do homework, and so on; whereas the Swedes in much smaller quarters have all types of ingenious devices where, in most instances, the living room serves as a bedroom for adults at night. Beds fold out of bookcases or somewhere, so that many of the rooms do double duty for sleeping purposes.

In the United States, on the other hand, people feel they need cer-

tain convenient facilities, like these kitchen ventilators, when they could open a window just as well. Many think they have to have a fireplace, but that means they cannot have as big a bedroom, and so on. There is close relationship between facilities and space, and there is danger in talking only of space requirements disassociated from facilities.

MR. ADAMS: Another thing we should consider, from the standpoint of the effect of this report, is what public agencies are doing, which the private speculative developers are not doing, and that is that, even though the standard space may be fairly low in our eyes, they do provide a variety of unit. This report emphasizes the problem, which hasn't been stressed in discussion, of space requirements for different sizes of family.

When you have a housing project developed with one, two, three, or four-bedroom suites, you do get a variety of type available based usually on some analysis of the need.

In the case of private developers, we get none of that. The private developer picks what he thinks is the marketable norm, let us say a two-bedroom house, and he builds acres or square miles of that one type. He may be conforming to a somewhat higher standard than the public housing agency, but he, in my opinion, has created a much more serious misuse of space, because he has ignored the expanding family. He has disregarded the principle that it is desirable for families of different sizes to live in the same neighborhood. We could hope that the impact of this report on communities might enable them, through some police power or zoning, perhaps, to insist on a certain diversity of family size.

Some zoning laws already incorporate restrictions on minimum areas, so that the neighborhood will retain a certain character, but I don't know of any instance in which a certain variety of size has been stipulated.

CHAIRMAN WINSLOW: I am very glad you brought that out. One chapter of this report is devoted to this ridiculous fallacy of the 3.6 person-family, for which practically all of our private, and much too large a portion of our public buildings, has been designed. As I remember, that size of family includes less than half of the population. The private builder has done nothing, and we in public housing have done mighty little, for the smaller families and the larger families.

MR. ADAMS: It would be perfectly possible to require a developer of ten units or more to so design his houses that there would have to be, on a percentage basis, a spread between sizes in order to avoid area-blocking of one size of family such as we get in many of our metropolitan areas.

CHAIRMAN WINSLOW: Regional planning techniques have progressed to the point where total floor space requirements are being written into zoning ordinances, and those in charge have been delighted to have this type of material. Now, if this question of diversity of unit sizes could also be included, it would be wonderful.

I can visualize many areas complying with the floor space requirements and still having not only monotony from an architectural standpoint, but socially undesirable perpetuation of the same-sized unit.

MR. YOUNG: The question that has come to my mind is that even though the tendency is to set up space standards by an agreement of the best minds in the field, will the people who will have to live under these standards be willing to accept them? I question as to whether we don't have to get a better picture of the desires, in terms of the values, the goals, and the ambitions, of the people who are going to occupy these houses before we can really have confidence in what some of us think are minimum requirements.

CHAIRMAN WINSLOW: Professor Chapin at the University of Minnesota has made some very helpful studies on this point. I agree with you that it is extremely important that such investigation be extended.

MR. DONALD YOUNG: The point I have in mind is that there are, of course, certain minimum requirements for certain matters of health, things that we agree on, even if people want less. Perhaps we cannot afford to let them have open sewers, whether they want them or not.

We talk about sixteen families per acre, or twelve families, or twenty-one families per acre of development. There seem to be people who prefer to live in even denser areas than that, although I fail to understand why.

There are innumerable factors of that sort where it isn't a question of higher or lower. I would like to see the other side of the picture brought in a little more directly. Even the studies which have been made make inadequate allowances for the cultural backgrounds,

regional traditions, and other factors involved. There is an enormous job to do.

MR. CHURCHILL: That is true, but doesn't properly come within the scope of this Committee. I think that all we are attempting to do over the years is to establish some reasonable minimum, and perhaps also desirable criteria, as much from the point of view of health as we can. With more and more construction being geared to those who have the least to pay, there must be established some kind of minimum standard, preferably from the health point of view, so that the limits of mass production can be established. We are living in more and more of a mass-produced world, in which things are being turned out like machines for people to live in. They are not machines for living, but they are built as a machine product, and the manufacturer should have some kind of norm, or some kind of basis below which, from the point of view of health, he should not be allowed to produce.

MR. YOUNG: I am in thorough agreement with that. Houses may be machines to live in, but not machines necessarily for living in terms of inhabitant definitions or preferences.

CHAIRMAN WINSLOW: You are perfectly right. We do need a lot more study of this kind, and my hope is that perhaps a shift of leadership from my own field to that of the social sciences would be a very wholesome one. It is in studies of this kind that the most help is needed. The open sewer is of no practical importance today. Malaria and yellow fever, and diphtheria, have practically disappeared from this country; but we do have overweight people in their fifties, which is infinitely more important than all the communicable diseases, and we do have all these problems of frustration and disillusionment, which, again, are of vast importance. We have only scarcely begun to measure those.

DR. KRUMBIEGEL: In one European country, they built housing projects for old-age pensioners. There was a tremendous amount of resistance to getting people to move out of neighborhoods in which they had been born and raised. Yet, in talking to many of these people after they had lived in the new projects for a period of time, they had only certain minor suggestions to make. When asked specifically about their preferences in relationship to where they now lived and the neigh-

borhood in which they had previously lived, there wasn't one who didn't think that the new environment was vastly superior.

MR. YOUNG: When I referred to the study of people's values, goals and attitudes and opinions, using the techniques of the behavior sciences as recently developed, I was not talking about simple market research, but about a study of the total culture pattern of the groups which are going to live in a definite area or development. I was not suggesting that this approach be a substitute for the techniques already in use, but rather as a supplement to them.

CHAIRMAN WINSLOW: The need for social research is very vital; there is no question about it. Perhaps we should go on to the third paper of the afternoon. Mr. Henry Churchill, Chairman of the Subcommittee on Construction and Equipment, will tell us something about his Committee's report which is the third volume to be published in the Standards of Healthful Housing series.

CONSTRUCTION AND EQUIPMENT OF THE HOME

HENRY S. CHURCHILL, F.A.I.A.

THE statement by one of our members that all planning in architecture is "public health" expresses the general background of the work of the Committee on the Hygiene of Housing, in this series of reports, of which "Construction and Equipment of the Home" is the third volume. The first volume dealt with the site and environment, city planning and neighborhood aspects of the home, and the second volume dealt with the internal arrangements of the dwelling, space, and occupancy. This one has to do with certain aspects of construction and equipment.

Planning and architecture are, of course, much more than public health, just as public health is affected by other fields than planning and architecture. Nevertheless, the acceptance of the point of view expressed by such a statement shows how far we have progressed since the days, not many decades ago, when architecture was looked upon as a decorative art, and public health was primarily a matter of environmental sanitation. The third volume concerns itself with the dwelling, its structure and its equipment. Its approach has been, as nearly as possible, from the health aspect.

The volume consists of eight chapters, the first of which deals with the structural framework of the dwelling, some brief comments on dollar values and human values, the dwelling in its environment, the structural shell of the house, the walls and the roof, the influence of window design and orientation, and the Committee's approach to the problem.

The second chapter deals with problems of heating and ventilation, objectives of air conditioning (air conditioning being used in its correct sense of the air conditioning of the internal climate of the house), the physiological relation of man to his thermal environment, thermal conditions for the home, site planning in relation to

thermal conditions, available types of equipment for winter heating, health characteristics of various methods of heating the home, and the problems of summer air conditioning.

The third chapter, on illumination deals with the purposes of illumination, the physiology of vision, standards for adequate illumination, natural light, and artificial illumination. Here has been brought together a concise review both of physiological aspects of light, and of technical applications of illumination to physiological factors in the home. It is a valuable contribution on this subject to the general information of the layman and of the practical builder.

Chapter four on the control of noise covers the general aspects of the noise problem, including the role of architectural acoustics in housing, effects of noise on people, characteristics of noise sources, the establishment of rational criteria for the evaluation of noise influences in homes, noise standards for construction, standards for sites, standards for sound-absorbing finishings and furnishings, methods of noise control, and sound-absorbing treatment. Here, again, is a small textbook for the layman and for the builder, and contains a great deal of extremely valuable data on noise and noise control.

Chapter five contains a discussion of sanitation in the home, the problems involved, provisions for cleanliness, provisions for hot water, standards for plumbing systems, disposal of garbage, and refrigeration of food. The need for a rational plumbing code with consequent economies is clearly brought out in this chapter.

Chapter six deals with household equipment essential for good housekeeping, good food-handling equipment, and desirable home-laundering facilities.

In chapter seven the extent and nature of the safety problem, structural safety, protection against fire hazards, stairways, the problem of flooring, windows, doors, electrical equipment, protection against gas poisoning, safety in the kitchen and bathroom, adequate storage as a safety factor, provisions of safe-play areas, are all covered under this heading of Safety in the Home.

Chapter eight is called Development of Standards for Construction. The authors have discussed regulation of building construction,

defects of our present system of regulation, specification codes and performance codes, and essential conditions for the operation of a performance code. They have given an excellent picture of the problem of codes and administrative law in relation, not so much to the enforcement of health regulations, but the enforcement and application of general building practices, and of how they may or may not affect costs.

The basis on which we worked in setting up these standards was to establish a scientific standard wherever and whenever possible. In some cases, statistically provable standards are not obtainable, and we have had to use a consensus of the opinions of the best authorities that we could find.

I would like to point out some of the basic problems involved in producing this volume. The essential one was to balance standards versus costs. In regard to standards, I would like to point out that certain things have come to be accepted at the present time in the building field, and they are accepted as standards regardless of the item of cost. For instance, we have come to accept the fact that every new dwelling unit must be provided with its own toilet and bath.

In our cities, where there is a high density of population, we accept fairly costly and stringent safety regulations in regard to the structure, and in regard to fire, because fire and structural collapse are not a hazard for a single family, but can affect a large portion of the community.

Most of these accepted standards are enforced by codes in cities; in semi-rural areas, or the rural areas where there are no codes, or where the codes are weak, a great many of them have come to be enforced through insurance company regulations.

Then there is a second category of standards which may or may not be mentioned in codes. These we might call semi-basic. They concern minimum room areas, regulations regarding light and air, and standards regarding privacy (that is to say, the number of bedrooms, the occupancy of the bedrooms, access to the bathroom, and so on). Cross ventilation is another one of these semi-basic standards which are accepted and carried out by the better builder

because he feels he could not sell his product unless he does comply with these semi-basic standards.

Finally, we have a third category of goals which are desirable without actually being considered standards. It is in this field in which the Committee is trying to break new ground. Those goals, standardless goals, include such things as sound-proofing between apartments, provision of artificial illumination, the exposure to sunlight, devices for promoting summer comfort, the provision of laundry facilities, the prevention of infestation, mechanical refrigeration, and certain requirements in regard to the construction of stairs, relation of risers to tread, elimination of winders, the quality of floors, the provision of storage, and in the rural areas, the extent to which structural and fire safety are provided.

It is in this twilight zone that we are attempting to establish satisfactory criteria as a guide for future effort. The difficulty, as I remarked before, in any twilight area of this kind, is cost. How much does it cost to provide these things?

When you have a sellers' market, it is very difficult to promote this kind of desirable goal, no matter how desirable it may seem to us from the point of view of health.

Only the largest builders will, I am afraid, take very much cognizance of them. Nevertheless, that is the objective of this Committee, and I hope that through the emphasis on the angle of health something can be accomplished in the coming years.

DISCUSSION

CHAIRMAN WINSLOW: We have had a lot of discussion in the Committee and I think we might well have some here on the question of the basis of standards. In very few areas is it possible to quote any statistical study which shows that some buildings are susceptible to endemic typhus, although we have had some outstanding examples. I don't know of any statistics showing that badly-constructed stairs are associated with home accidents, but it seems to be a fact that nobody can doubt.

As regards heating and ventilation, we have overwhelming evidence of the prevalence of respiratory disease in winter in buildings that are too cool. On the question of avoidance of overheating, we have definite

quantitative physiological data. We know exactly how much heat is produced within the body as a result of various physiological activities; and exactly how much of an accumulation of excess heat must be lost from the body.

We have ample laboratory evidence that certain kinds of activities require certain levels of illumination. I think we can fairly infer when those are not available, eyestrain is being produced as well as emotional discomfort. That is the kind of problem that arises, and the kind of evidence on which it stands today.

This report has very considerable promise in two respects. We have stated pretty strongly that there is little justification for many of the provisions of our present codes. Most of them are badly outdated. In 1870 it was believed that disease was caused by sewer gases. We know today, and have known for a long time, that there is no objection to sewer gas, unless there is gasoline or illuminating gas from a street sewer. It will have a slightly musty smell, and won't hurt anybody.

For example, there is absolutely no reason whatever for requiring back venting of fixture traps in today's plumbing systems. Estimates of the average savings that could be effected by their elimination vary from twenty-five to fifty per cent. Similarly, as Mr. Churchill has pointed out, the mere fact of diversity in construction methods required in building codes makes any sort of mass production impossible. No firm can make advances in construction faced by these two thousand archaic codes. There is tremendous opportunity for rationalizing the requirements of building codes to effect enough economies to at least partially offset the cost of the extra living space which we have recommended.

MR. SCHEICK: Is the nature of this publication parallel to the others in that the recommendations more or less represent a base or minima below which you hope people wouldn't go?

MR. CHURCHILL: To some extent, but not quite as rigidly as in the previous volumes, simply because to do that would have meant practically to write a building code. I don't think that every one of the recommendations in any of the three volumes should be put into legal codes at the present moment.

MR. YOUNG: Why don't we consider it a part of our task to study the problem of how to get people to demand revisions of the building codes? We have a good many of the answers to some of the questions

which we are talking about here, but we need studies on how to get them adopted.

MR. FEISS: How much are we restricted by our concepts of the possibilities of advance in technology and particularly in the fields of public health as they affect housing? Perhaps the greatest restriction to community planning advance is our necessary adherence to the soil pipe for human refuse disposal. If science could solve the problem of making it possible to dispose of human waste within the dwelling units and thus not to rely upon water supply to as large an extent as we do today, we would gain a flexibility in rebuilding our cities which would be absolutely limitless.

Site planning, general planning, and all the future of the community, are tied up with that problem. We badly need the concentrated attention of the public health official, the scientist, the inventor, the electronic engineer, the chemical engineer, and others to see whether they cannot find a method of improving a system which is as old as the Roman Empire.

MR. POND: The answer to that question, which is a very basic one, is probably going to come from other than the groups that normally think about it. Some studies of the Army Chemical Corps made on filtration have resulted in a development which promises possibly to revolutionize water bacteriology. The professional groups working on such problems are inhibited by traditional patterns of thinking. I feel very strongly that if other kinds of people can focus attention on these "homely" problems, we might achieve results.

CHAIRMAN WINSLOW: It is a very challenging problem, and I am glad it was raised. There is a gap between the thinking of the kind of people present here today and those who are concerned with the industrial side of the building industry. The manufacturer has been placing his emphasis on physical comfort and has been successful in selling it. It is hard to define even to him the difference between the principles of livability and the simple mechanics of living comfort; it is hard to define well enough so that he sees something to sell. We need a continuity of language through several sciences and I think one of the big gaps is at the professional level in the building industry.

MR. STEINER: When we start to standardize, we are very apt to end up having standardized too much. We need to bear in mind that,

particularly where we do not know everything that we may ultimately know about human behavior, a certain amount of flexibility and variety may be desirable, and it may even be essential in order to make the determination in terms of the process of natural selection, and also to bear in mind the fact that the family, as it passes through its various stages of aging, needs flexibility and space standards in its own requirements.

DR. KRUMBIEGEL: Since there are people here representing a great many types of professions, certainly it doesn't behoove the people in the purely public health professions to adopt a holier-than-thou attitude when it comes to codes, because we have seen the development of so-called model codes that became rigid. We are in no position to feel that we haven't been guilty to some extent in practices that have prevailed in building and other industries. The danger of codes, unless people are actively interested in keeping them truly abreast of the times, is well exemplified by the plumbing codes in relationship to the public health profession. The public health people, responsible for the plumbing code, have become just as rigid as anyone else and have failed to keep abreast of technological improvements.

MR. FEISS: As we develop more housing codes and health codes, and redevelopment codes, and planning codes, and ordinances, we are making the task of city administration more cumbersome. We have a tendency, it seems to me, to over cellularize our administration and to specialize to such intensity that the smaller communities particularly become confused. Local process of government becomes overweighted with technical personnel and with restrictions and requirements. I feel that we have a very big job to do in finding means of combining these efforts, so that the public official understands where he and his particular specialty fit into the total community picture.

DR. KRUMBIEGEL: I heartily agree with that, but it is a tremendous thing to accomplish in a big city. In Milwaukee at the present time, we of the Health Department want to give up some of what we are doing, although we feel we are perhaps the best qualified to do it.

CHAIRMAN WINSLOW: I think we are all agreed on the importance of approaching this problem with a view toward flexibility, and with a single aim of fulfilling basic, fundamental, physiological and psychological needs.

It has been pointed out that we need a great deal more social research to clarify those needs, as well as constant engineering research. The discussion of the educational needs of the various professions concerned is of particular value to these sessions where we have brought together a number of different disciplines.

BUILDING CODES AND HOW TO IMPROVE THEM

CHARLES S. ASCHER

PRECISELY seven years ago, a meeting of the Milbank Memorial Fund, under the joint auspices of the Committee on the Hygiene of Housing of the APHA, was held, I think in this same room, on substantially the same subject. At that time, for the first time, some of our friends who were leaders in public health sat down around this table with some men who were leaders in public administration.

There is some evidence that a good deal of headway has been made in seven years. We have come to recognize that while the public health officer has specific and scientific standards based on the germ theory of disease and the scientific researches in acoustics, illumination, and the rest, he still has to operate in a context of American traditions, constitutions, practices, legal precedents, when balancing the right of the individual against the power of the community to demand that he conform to these standards.

I am confident, coming back to this subject after several years, that there is a readier acceptance by our friends who are experts in housing to admit to the conference table the people who are experts in the processes of administrative enforcement, and I should like to highlight in these ten opening minutes just two or three points which grew out of yesterday's discussion.

Administrative lawyers lay a great deal of stress on the process of making rules. Health officers lay a great deal of stress on the enforcement process, but these emphases are secondary to the importance of exercising the power that legislatures give and that courts sanction of letting some expert, somebody other than the legislature, fill out the details of a general law that is for public health and safety.

I should just like to open, for discussion, the question whether

it isn't equally important that fire departments and police departments, if you will, take part in the making of the rules too, so that you have coordinated blending of these special points of view to give the broadest possible foundation, using not only the powers that courts have for a century granted to health officers, but also the powers that they pretty generally concede to fire departments. Get them all in the same body of regulations.

The process of making rules can, in itself, be a great educational tool in the hands of the administrator in acquainting the group who are expected to live up to them with their meaning. Inviting the people whom we wish to accept these rules into the process of framing the rules is not only a progressive technique, but also a very useful gauge to the administrator as to how far the public is prepared to go at any one time.

It is noteworthy that almost the only substantial regulatory code that I can think of that does not have a continuous mechanism for amendment and modernization is the building code. Rule-making is generally so organized in municipal government that there is a continuing body that can entertain proposals for change; whereas in the building code, it is a major cataclysm in town, it is a five to ten year undertaking to get a building code redone.

We had heartening evidence yesterday that mechanisms are now being created which will bring together all of the officials who have an interest in building regulation. The administrative principle can be stated that there must be central responsibility. That frightens some health officers: if you set up one of these mass committees of ten or fifteen city departments, you will have such diffusion that nobody will be responsible for everything. Certainly, the principle of fixed central responsibility is Principle 1. It must be possible for one person to have easy access to, and win the confidence and cooperation of other people. It doesn't help a lot to say, "Oh, the fire department is only interested in fire hazards, whereas someone else has a broader interest." To the fireman, the interest of others looks just as specialized. The task is to create a framework within which all can work.

On the matter of building codes and the writing of building codes,

I should just like to highlight, as a basis for discussion, a point which is developed in this forthcoming third volume of the Committee on the Hygiene of Housing which Mr. Churchill outlined to you yesterday.

It is very important that those of us who are trying to lead the public to accept the concept of the performance code, rather than the specification code, should have clearly in our own minds the necessary implications of making a performance code work. It is so easy to make these plausible speeches that everyone in this room can make and has made about the superior virtue of saying that a wall must resist so many and so many degrees of heat for such-and-such a time, instead of saying it must be so many inches thick. Granted that!

The first step is to have some competent body establish what the standards are, how many degrees of heat for how long it is supposed to resist. That is a scientific matter in part, and I will devote a sentence to that later, if I may. The first step is to get agreement on what the performance standard is.

The second step is to get a way of measuring whether any particular kind of material, or any particular new method or process, complies with that standard. Does the XYZ company's process or material conform to that standard? Some authorities say you can deal with this problem by getting a network of certifying agencies that would be acceptable to the government agencies that have to do the enforcing. Others believe that it isn't as important to have accredited agencies as it is to have accredited testing processes, because then any commercial laboratory can certify, for example, "We have tested this product in accordance with the test method approved by the American Society for Testing Materials."

The third step is particularly important, in view of what Dr. Winslow said yesterday about the 2,000 separate building codes and their administration which so often, in small communities, may be in the hands of untrained people. Granted that the XYZ company's product may have been certified by the National Bureau of Standards, or a commercial laboratory, to comply with the tests developed by the American Society for Testing Materials, or the

American Standards Association, but when the truck-load of pieces of the XYZ company's product arrives to be incorporated in the job, how does the building inspector know that those pieces have been made in compliance with the approved method?

Let us not deceive ourselves that by getting the concept of the performance code established, and by getting a town to adopt a performance code, we have solved an operating problem. There will still be the question before the local building inspector of how he can authorize the building of a house unless he has concrete evidence of performance tests. He cannot run a laboratory. Not even the biggest cities, I think, should be induced to try to run their own testing laboratories. It isn't an economical concept.

Just one last highlight to open discussion, and that is on the question how you create an appetite in the public's mind. How do you get these things that the experts know put into law? How can we get the support we need for putting into effect superior and scientific standards?

I offer, as one suggestion, putting these matters up for official action in broad enough terms to arouse the interest of citizens, generally. It is conceivable that the housing committee of the American Legion, the Veterans committees, the Parent-Teacher Association, the League of Women Voters, and other civic groups, would think that a housing code being considered for adoption by a city council, was important enough to warrant their attendance at hearings, provided the problems are stated in such terms that citizens can see why they affect them. So long as we continue to have separate electrical codes, plumbing codes, elevator codes, we can expect that their adoption will be dominated by the trade interests affected, because it is hard for the general citizen to see how these technical regulations affect him.

DISCUSSION

CHAIRMAN WINSLOW: I think this discussion, particularly with regard to the values of the performance code, should be opened by Mr. Lescaze, because of his experience with the New York State Building Code Commission.

MR. LESCAZE: Briefly speaking, New York State finally managed to pass a law which created a Commission of five persons with facilities for a technical staff to write a code which clearly is of the "performance" type. It is quite interesting that the legislature should have specified that our job was to write a performance code.

We have now reached the point where we have what we call the "little code," a code for one and two-family dwellings and row-houses. We were greatly helped in the preparation of this by a board of consultants, whom we brought in from time to time, and a number of special experts in special fields.

The performance code is a fairly new notion; it is not going to perform miracles *per se* right away. Furthermore, for the people who have to administer a performance code there is going to be a difficult transition period from the concepts of a specification code to those of a performance code.

To aid in the transition, we issue simultaneously with the code a profusely illustrated manual of 180-200 pages. This is issued in loose-leaf form and in sections arranged to conform with the code itself, the theory being that as new materials or new methods are presented and tested and properly approved, we will simply issue an appropriate page to every owner to go into his manual as a new piece of information on which he may act.

MR. ASCHER: Who will do the approving?

MR. LESCAZE: Under the present scheme it will be the Commission itself. The State Building Code Commission is a going concern as conceived at the present time. Of course, we recognize that there is a field of conflict, because there are a number of regulations for which other government bodies are responsible, such as the Departments of Labor, Public Assembly, Factories, and State Education. The process of adjustments will probably be much slower than I would personally wish, but I think eventually it will be recognized that there is great benefit to be gained by having a single statewide uniform building code, and that is of major importance. For once, instead of having a number of little codes all varying slightly from each other, there will be a uniform code based on performance, which implies concepts quite different from the old-fashioned specification type of code. We hope, by progressive steps, to make the instrument so good that slowly the resistance which we expect at first will be overcome.

MR. ASCHER: What position has the State Association of Mayors and Municipal Officers taken so far?

MR. LESCAZE: They have been cooperative whenever we have needed or wanted to be in touch with them. I should have mentioned to you that we made it our business to tour the State in order to build up a feeling of good will. We went to such cities as Buffalo, Syracuse, and Albany, sending information in advance that we were coming, the five of us, and that we wanted to listen to their ideas of what they would like to see incorporated in the code. In some places, we were very well received and in other places not quite as well. We propose to follow the same procedure with the code. I would think the whole thing is being handled in a very diplomatic manner.

CHAIRMAN WINSLOW: I think it is very important and quite essential to avoid a revolt that would upset the whole thing before it had been given a fair chance.

MR. FEISS: In regard to the manual, was it your idea that a sort of loose-leaf catalog would be used, covering various materials that would be approved through testing or some other method?

MR. LESCAZE: It would be much more in the nature of a standard catalog. It shows you in outline the clearance which is desired between the top and bottom and side of the furnace, combustible material, and so on.

MR. ASCHER: Doesn't somebody have to go a step further ultimately for the little building official, and say, "The following manufacturers make something like this"?

MR. FEISS: You don't have to worry about that; they will advertise quickly enough.

DR. KRUMBIEGEL: We need something like the hydraulics laboratory on an over-all building scale.

MR. ASCHER: It either has to be that or the Federal government. It can be Purdue for the Midwestern states and some other university laboratories for other states.

MR. RATCLIFF: There is one arrangement that has developed that

seems promising. The Southwest Research Institute, a private non-profit organization with very good laboratory facilities, is developing a working arrangement along these lines to provide service.

MR. ASCHER: I would think that a regional start would be wiser than a national one. Yesterday, there was mentioned the need for securing a wide market to induce mass-produced houses, but there are enough regional differences in market needs, climate, and what-not, so that if you got it done on a regional basis to begin with, it would be a very good thing.

There is one more question which might be discussed. Mr. R. L. Davison, for example, says that it is perfectly possible, in a scientific laboratory, to determine that to resist wind pressures of 60 miles per hour, a wall must have certain standards. To resist wind pressures of 80 miles an hour, it must conform with other standards which involve more expense. There is nothing the health officer can tell the city council to guide it as to whether or not it should require everybody in town to spend more money to live up to this higher standard. The meteorologists can state that we have had 80-mile an hour winds on so-and-so many occasions since the records have been kept. Somebody has to make the judgment as to whether that frequency constitutes a risk real enough to require everybody to meet the standard. I submit that the only ones who make that judgment, under our system, are political representatives. It is basically a political decision.

All the experts are saying is, "If this — then that." The decision of which of the if's to take into account remains basically a political decision. I think if the expert sees his role there, he will have less heart-ache and more recognition of how he can be helpful.

MR. LESCAZE: I certainly would disagree with you.

DR. WILLIAMS: The legislature has got to call in the experts to guide it in making its decisions.

MR. ASCHER: That is correct, but it has to choose between the several balancing factors. As Davison says, the traffic expert can predict that if you pass and enforce an ordinance that no car is to travel faster than 20 miles an hour, you will practically eliminate traffic deaths. But everybody knows the American public would not accept that much infringement on its freedom.

CHAIRMAN WINSLOW: I don't see why you need an expert at that stage. It is a matter of judgment, as you say.

MR. ASCHER: That is the final stage.

CHAIRMAN WINSLOW: At that final stage, you know how many days an 80-mile an hour wind blows, and you know what the amount of risk is, and that is an administrative matter.

MR. ASCHER: It is still a political judgment. Some elected representative of the people makes that judgment.

DR. HILLEBOE: Dr. Winslow, I should like to ask two questions. First of all, because of the fact that much of this cuts across state lines, but not necessarily on a national basis, to what extent has the Council of State Governments been brought into this problem? They work things out very nicely in many fields.

Secondly, I should like to ask, specifically, in regard to New York State, whether or not the housing group has brought in Mr. Ostertag's committee on interstate cooperation, which, of course, could go into something of this sort, where you have got the problem first of working out the rules, and secondly, enforcing them.

MR. LESCAZE: Yes, we have, just as we are also in touch with Senator MacNeill Mitchell's group, and others.

DR. HILLEBOE: It is really a very good group. The other question fits in with it. I thought Professor Ascher would have something to say about it, whether the Council of State Governments has involved itself in the thing, because of your statement of central responsibility, which we all recognize.

MR. LESCAZE: In that direction, one of the things that has been done is to get in touch with some states which had, at one time or another, shown an interest in the creation of a uniform state building code, so that there is the beginning of some relationship.

CHAIRMAN WINSLOW: Other comments or questions? If not, we are very grateful to Mr. Ascher and Mr. Lescaze.

We are now taking up a different subject, and, finally, with Mr. Ratcliff, we shall return to the subject of codes. In planning this discussion, it was the idea to indicate the various ways in which the gap could be bridged. One of the most interesting efforts along this line has

been one which has been applicable to certain areas in our cities, and which has been worked out by the Friends Committee in Philadelphia, "The Tenant's Role in Redevelopment" will be discussed by Mr. Alphonse Miller.

THE TENANT'S ROLE IN REDEVELOPMENT

ALPHONSE B. MILLER

FOR many years, the American Friends Service Committee has been gravely concerned about one of the most evident problems in our civilization, namely, the untold social evils which stem from inadequate housing. It is a matter of mathematics that a person who has a low income simply can not afford to buy decent housing when it is built out of expensive materials by expensive labor. It is quite evident that large numbers of families with incomes of less than \$60 a week, cannot possibly get satisfactory housing without some form of assistance.

Unfortunately, the most common form of assistance is necessarily some form of government subsidy. I believe it to be the least satisfactory form of assistance that there can be. Nevertheless, it is the one that is being used most extensively.

We of the Service Committee have been hunting for years for some alternative system. We thought perhaps people who could not afford to buy decent housing for cash might be interested in buying it with their own labor. Fifteen years ago, at Penncraft, in southwestern Pennsylvania, we first started experimenting along these lines. We enrolled more than fifty mining families, all of them working for the large coal and coke company there. We taught each of them some form of building skill. We made masons or plumbers out of some, carpenters or electricians out of others, and so on.

Through a rather complicated system of credits for work performed on others' dwellings, and debits for work performed on their own, those fifty-odd families built their own homes on plots of three-quarters of an acre each. They built six-room houses entirely out of stone, with all modern improvements. They built a community store, a community slaughter house, a community deep-freeze unit, and as a hedge against depression, they built a factory, which, last year, employed ninety people, and turned out \$450,000 worth of women's

sweaters. Since then, they have built up other public services, such as a playground, a community center, and so on.

It is pretty difficult to evaluate the social significance of this experiment, but the figures indicate that these miners are paying off their indebtedness on these properties at a rate faster than they need to. Almost all of these properties will be owned free and clear in less than twenty years.

One important result of this project is the sense of belonging which these people have developed. Through the efforts of their own hands, they have contributed something to the community, a very different matter from getting a government hand-out, no matter how well the hand-out feature is concealed.

Following Penncraft, we have decided to try the same experiment in an urban area. Beginning about three and a half years ago, we started considering, and have now undertaken, a rehabilitation project in cooperation with the Philadelphia Redevelopment Authority.

There were twelve areas that the Redevelopment Authority set aside for rehabilitation, and we selected the one called "East Poplar" for a number of good reasons. First of all, it is a sizeable area. It runs two-thirds of a mile from north to south and a half mile from east to west. Secondly, it is the slum area closest to the business center of the City. At the southern edge, it is only a half mile north of the chief business and financial center of Philadelphia. Another reason that we selected it was because there are in that area a dozen blocks where the residences, although they are very old, are of an extremely substantial character. These houses were built for the aristocrats of the City of Philadelphia 50 to 100 years ago, and the basic structures are still sound. All that needs to be done is to rehabilitate the insides, which are archaic, and are neglected.

Still another reason why we have chosen this area is because the Friends Neighborhood Guild, situated on its southeast corner, can supply three very important functions. First of all, this agency will screen the people who are going to live in this particular block. There will be as many people in the block after the rehabilitation is completed as there are at the present time, but they may not be

exactly the same people, because they have to be eligible according to three different criteria.

The first is whether they will be willing to contribute labor in place of money. Secondly, they must be of good moral character; and thirdly, their income must not be incompatible with the rents charged in a housing project of this character.

Let me illustrate this. The average rental paid at present in this area is \$10.55 a room. There are people, single individuals and couples, who are paying as high as \$25 to \$30 for a room, just because they make enough money to do it. It is a form of exploitation. So that while there will be as many people in this area, there will be far fewer families, because it is the large-family groups among the low-income level that have the hardest time getting housing. Incidentally, the present owners of those properties paid \$78,400 for them, and before condemnation they were being paid gross rentals over \$40,000 a year.

The second thing that the Friends Neighborhood Guild will do is to teach the building trades in conjunction with the Board of Education. Their third function will be to provide continuing social services in the area to prevent it from slipping back to slum conditions after it has been rehabilitated.

There were certain preparatory steps which we had to undertake in connection with this project. First, we considered what the attitude of the labor unions would be. We had had a previous experience in Ohio, where a coalition of labor union people, contractors, and politicians, made it necessary for us to move a project outside city limits. One of the first things we did in Philadelphia was to go to the building trades, explain our plan to them, and we succeeded in getting their acquiescence. Then we went to the people responsible for enforcing the building codes in Philadelphia. We discovered that we could work on certain building processes by the self-help housing technique, such as demolition, painting, floor work, and some of the simpler carpentry operations. There were other things which we positively are not permitted to undertake. We cannot put in heating installations, electric wiring, or plumbing. The savings resulting even from the operations which we are permitted are sizeable.

We are starting operations with one city block in which there are twenty dwelling houses which presently house about 350 people. At present their living conditions are indescribable. There is no heating in any of these buildings. The heating is all done with a coal stove which is also used for cooking purposes. There is never more than one toilet to a building, and the average building today contains six families. Most of the buildings have no baths at all. We propose to convert most of those buildings into five family apartments. Each pair of buildings will have central heating. Each apartment will have a bathroom with sanitary plumbing. There will be a gas range, and an electric refrigerator in each apartment. We hope that in a period of a year and a half this city block will be completely rehabilitated, although we know this effort to carry on professional building and amateur building side by side simultaneously is bound to create problems. We are hoping to learn all of our lessons in the first city block. After that, we will take three and four city blocks at a time. We expect, within four and a half to five years after starting that, we will have done our share of the rehabilitation of the whole area.

The next problem is one of management. We propose to set up a separate corporation for each block. Four elements will be included in the directorate of each corporation. First, the City of Philadelphia, which is interested in seeing that slum conditions don't return; secondly, there will be ourselves; thirdly, there will be the Friends Neighborhood Guild; and fourthly, there will be the tenants themselves.

All of the stock in the corporation will be owned by the tenants, but at the outset will be pledged as security against mortgages. The property will be mortgaged and rentals will include a sufficient amount of money to pay off the mortgage in thirty-two years and eight months. The present rentals are \$10.55 a room, without utilities, and our last calculation, which may be now a little low, was that the rentals would only have to be raised to \$14¹ per room, all utilities included.

¹Since this paper was given, building costs have risen to such an extent that an increase in the average rental charge per room will be necessary.

Now, let me consider the mathematics of the proposition. I am going to go on current figures. Were there no savings effected through self-help housing, that property would today cost us \$740,000 to rehabilitate completely, and against that there is a mortgage of \$631,500, leaving a gap of approximately \$110,000 that has somehow or other to be filled in.

First of all, there comes the element of self-help housing. Now, at a minimum, that would save about \$63,000, already reducing the gap to less than \$50,000.

On the other hand, the City of Philadelphia has agreed to turn over these properties to us at the price paid by the present owners, \$78,400, whereas on condemnation proceedings, we would expect to have to pay \$186,000. That seems to indicate that the City will be giving us a subsidy of over \$100,000, but actually what the City is doing is making an investment, because in return we are agreeing that as soon as the property is completely rehabilitated and income-producing, the City can reassess the properties on the basis of the improvements and get a tax increase, which will be a handsome return on an investment of \$110,000.

The City is, at the present time, paying four times what it is collecting in taxes for fire, health, and police in that area. It is evident that if we put in sanitary plumbing and make all of these improvements, health conditions are going to improve. With the right kind of heating and the right kind of stove, there are going to be fewer fires, and it is a social phenomenon that once living conditions have improved, the incidence of crime tends to drop, and police protection becomes cheaper. That is the job we have to do.

Now, let us take the role of the City. In this area, there are eight city blocks where the process of deterioration has reached the point where these structures cannot be saved. The City is undertaking to tear them down. On three of the blocks they are building subsidized three-story walk-up apartments where the rentals will not have to be higher than the rentals in our area. The City plans to change the five remaining blocks into rest and recreation areas, so that the East Poplar region will eventually have a bigger proportion of open space than any other urban section of the City.

The southern boundary of this project is on a wide street which ought to be a business area, but because of the fact that these people have not had much buying power, there is no shopping area in this whole section. The City is going to build, or get built, a shopping area along this street in the expectation that when people have decent homes, they will spend more money on useful things, such as house furnishings, especially when they have created these homes with their own hands.

Then, the third thing the City is going to do is to try out the "Baltimore Plan" in a ten-block area on the north boundary where properties have not deteriorated to the point where they need such herculean treatment as we are proposing.

That, in outline, is the Philadelphia Project.

The next thing is a dream that we have for the future. One of the disappointing things in connection with our efforts has been the fact that so many groups have come to us to find out how to carry on such an operation, and then have been so appalled by its complexities that when we told them that we couldn't furnish the management and know-how, they decided not to adopt it, or, in one case, after they did adopt it, they abandoned it before they got very far.

What we are now planning to do is to set up a package organization so that groups can come to us and get the whole job done for them. All they have to do is provide the labor of their hands.

First of all, we are going to provide a salesman, and don't think that a salesman isn't necessary, just as it is in life insurance. Everybody knows that life insurance is a good thing, but I don't believe that there would be 20 per cent as much life insurance written if it weren't for the salesmen, and we are going to provide a salesman who will go around and explain the proposal to interested groups and urge them to go ahead with it.

Second, there will be a finance expert who will, first of all, arrange for the financing; secondly, he will do the purchasing, and thirdly, he will set up the bookkeeping necessary to carry on such a project.

The third member of the team will be an architect, who will do

a hand-tailored job for each community. There will be no attempt made to force a generalized plan on any particular community.

Fourthly, there will be a project manager, not a project manager for a particular project, but a project manager who will select and train project managers for the individual projects.

Now, for this we will charge a fee, a fee large enough to liquidate the working capital we shall require over a period of five to six years. Even with the fee, a man building a six-room house can save about \$5,000 by this method as compared with conventional mass-production methods. We estimate that we will need \$60,000 at the outset, and the only condition which would make the repayment of this capital impossible was if we didn't have a minimum of three projects, with fifty houses projected in each one, going simultaneously.

DISCUSSION

CHAIRMAN WINSLOW: Thank you very much. This is extraordinarily interesting, not only from the very material savings effected, but also from the cooperation by the city, labor unions, and all the other bodies. It seems to me it has quite wide application to a particular kind of area in our city where there are buildings with good, solid structural characteristics which have become slums, and which can, by some such process as this, be rehabilitated.

DR. KRUMBIEGEL: The Swedish Health Plan system is very interesting. When you want to build a house, you need no capital at all. You are given a training course and you start to build your own house with the government providing all the materials and you providing practically all the labor. The city has teachers who come out on the job, to help you take your bearings and to be sure that everything is going up right. One interesting thing they told us was that they seldom had an individual start and fail to complete his house.

The prospective builder pays nothing down except his labor, but then he amortizes the investment in materials that the municipality has supplied over a thirty-year period, and they do it on a huge scale.

They build a central heating plant, for example, and surrounding that there may be a thousand individual homes. They are very, very well built, just as any building you see here.

MR. MILLER: I think one of the most significant things is the fact that after we finished, that is, Penncraft 1, we started Penncraft 2,

which was a further development. Instead of building on a three-quarter acre lot, those houses were built on a ten-acre lot, and we loaned them money not only for building the house, but stocking it with animals.

All of the people that went to work in Penncraft 2 were either the children or close relatives of the people who had just finished Penncraft 1. In other words, it started a definite movement.

MR. FEISS: About the increased assessments you suggested as being logical because of the increased value in buildings, and also the increase in rents, — can the people now living in these areas, afford the increases?

MR. LESCAZE: What happens when the city re-assesses and increases the tax? Is the \$14.50 rent going to hold?

MR. MILLER: Yes, the increased taxes are included.

MR. FEISS: Will the tenants who move in when vacancies occur be subject to the same rents and conditions?

MR. MILLER: Let me tell you what that process is. A tenant who will go into that area when it is finished has his stock. If he decides to move out or he dies, that stock goes on the market. First of all, it has to be offered to the corporation; secondly, there is a proviso that the successor has to have the approval of the board of directors of that block, and if he cannot sell it at cost, or at a profit, he has to sell it at a loss. In other words, he has to take ordinary business risks. There is no coddling of the tenants.

MR. BUTTENHEIM: I wanted to ask whether this Philadelphia project is getting any aid from the Federal government under the Urban Redevelopment Law, or any aid from the City?

MR. FEISS: Is the East Poplar redevelopment area planned by the planning commissioner as part of that whole redevelopment plan?

MR. MILLER: Yes, there are twelve or thirteen areas that are planned for redevelopment, and we were given our selection out of those as to which ones we wanted to take.

MR. LESCAZE: So that it makes sense in the picture of the whole; it is definitely a kind of neighborhood which will remain of residential character.

MR. MILLER: Yes.

MR. POND: Does anyone here know, or have fairly clear facts on what proportion of the seriously substandard housing in American cities is rehabilitatable? I was impressed with the fact here that \$400,000 can be saved by rehabilitating so-called old structures over what it would cost to replace them. It is a substantial saving, even though there is a large number of units. Do we know how far we can go in American cities to rehabilitate some of these old places?

MR. MILLER: I cannot even tell you the whole picture in Philadelphia. There is only one other area in Philadelphia that has yet been surveyed for that purpose. This isn't going to be the solution to anything like a majority of the slum areas.

For example, the Baltimore Redevelopment Authority studied this thing but they don't build their houses in Baltimore the way we do in Philadelphia, and something which is applicable in Philadelphia isn't applicable in Baltimore.

CHAIRMAN WINSLOW: Dr. Williams defined rehabilitation, as he used the term, in quite a different sense.

MR. POND: The thing I am really interested in finding out, if we can here in this group, is how far you can go?

DR. WILLIAMS: Forty per cent of all the dwellings in Baltimore would come within the group that couldn't have this kind of work done on them. That has been published, and I think it is an overestimate myself, but I believe Mr. Steiner probably could give you a figure closer to what is right.

MR. STEINER: Dr. Williams, I haven't any real quantitative answer. The Redevelopment Commission of Baltimore has been interested in, and has been under a certain amount of pressure, from citizens' groups to push the rehabilitation type of redevelopment versus the tear-down and rebuild-up type.

We have surveyed, in a cursory fashion, a good many blocks in the approved redevelopment areas, and we have not found very many that we think are susceptible. We have found one that we think is the most susceptible, and we have gone pretty far in studying that block.

We have made a questionnaire survey, have drawn up architectural floor plans of the existing buildings, and have a model. We are working toward what we hope will be at least a one-block demonstration

and experiment of comprehensive rehabilitation of the type that Mr. Miller has talked about.

Our thinking in Baltimore on that particular block is not so much in the self-help direction as it is in the direction of forming a redevelopment corporation which would own and manage.

CHAIRMAN WINSLOW: It is difficult to determine in a given city the areas where there are buildings which, in toto, are of fine structural character but have deteriorated inside. Most cities in New England would have certain areas of this type, but not very large areas.

MR. FEISS: Kansas City has made a very important study as to the qualities of its neighborhood as part of its planning activity and has actually mapped out those general areas where rehabilitation or conservation is possible on a general basis, without going into actual details of the plot studies, except on a sample basis.

My own guess is that in the many slums that I have seen throughout the country in the last ten or twelve months, there is, to answer Mr. Pond's question, only a small number of cities that could do anything, to a major degree, in this self-help program. The fact is that most of them are frame deteriorated slums, or brick structures of the type that are no longer in any condition. San Francisco might be able to do something; New Orleans, and Charleston, and Savannah, might be able to do something, but not to any great degree.

MR. MILLER: Pittsburgh is expected to be able to do some work.

CHAIRMAN WINSLOW: We have had an inkling from Mr. Ascher as to how the gap between needs and achievement can be bridged. Mr. Miller has told us about an extremely ingenious device for this purpose.

Our last speaker, I hope, will take up both sides of this problem. The Federal Housing Authority is conducting a most important series of researches under Mr. Ratcliff's direction which relate to decreasing the cost of construction. I hope we will also have a brief summary of what is being accomplished by direct subsidy in meeting the needs of low-income families.

THE FEDERAL HOUSING PROGRAM

RICHARD U. RATCLIFF

I JUDGE my function to be to pursue this subject of how to obtain healthful housing by showing what the United States Government is attempting to do. May I start by telling you first, that the four initials, HHFA, really stand for Health and Happiness For All, a subject quite appropriate to this meeting today.

Many of you are familiar with the National Housing Act, the 1949 Act, which describes the National Housing objectives. It concerns itself with the production of housing, of sound standards of design, construction, livability, and size for adequate family life; it deals with the cost reduction of housing without sacrifice of such sound standards, the use of new designs, materials, techniques, and methods in residential construction, the use of standardized dimensions and methods of assembly of home building materials and equipment; also the increase of efficiency in residential construction and maintenance, the development of well-planned integrated residential neighborhoods; and last, the stabilization of the housing industry at a high annual volume of residential construction.

The Congress had in mind a very broad definition of housing, one that extends far beyond the structure itself; in fact, up to the very edges and margins of the community. When we speak of health and healthful housing, we speak not only of the usual strictly physiological aspects of health, but we are talking about comfort and contentment, and about social adjustment of both the individual and the group.

Housing problems, or, if you will, housing objectives, are really expressed in terms of cost and quality. Cost, let us consider to be the financial burden. Quality, we might use to mean health, if we use a minimum broad definition. At least we are speaking of quality in terms of the effects of housing on people. Certainly, cost has no meaning save in terms of quality, and the cost-quality ratio would

seem to be perhaps the most significant unit of measurement in our analysis of housing problems.

Now, what is the government program? Most of you are familiar with much of it. None of you is probably familiar with all of it. I am not sure myself in these last months of a rapidly growing agency, whether I have been able to keep track of the new functions the agency has assumed.

Let me give a very quick summary of the very wide variety of activity which is covered by these national housing objectives, with a view to an extension of healthful housing. There is, of course, the low-rent public housing program which makes a direct attack. There is the slum clearance and urban redevelopment program which removes bad, unhealthful housing and lays the groundwork for replacement housing. Then, there is a whole series of activities in the loan guarantee field, and I hasten to insist that while they are only financial devices, they bear very directly on this problem, by moving towards a more efficient operation, toward lower costs, and toward greater stability in the industry.

Then, of course, the veterans program comes in, which is the underwriting of risks on the purchase of homes by veterans.

The consumer benefits by this kind of operation because it tends to reduce his financial burden, and thus permit him to acquire better housing at a given level of financial burden. Lower interest rates and longer terms contribute to that. For the lenders, there is a reduction of risk, and there have been certain reforms in financial practices which, in the long run, tend to reduce the burden of housing costs. Builders have a broader market and operate on larger scales. There have been definite quality controls attached to these programs, so that, presumably, we now have better designed houses and better land planning, and in various ways are producing more healthful housing by reason of controls attached to these financial aids. There has been a definite policy of encouraging programs of house building at moderate price levels.

There is another financial device that I will sketch very briefly. The Federal Home Loan Bank system is a secondary mortgage market device, a mortgage bank. The Federal National Mortgage

Association, another device of the same character, tends to equalize the supply of mortgage funds at places where it is needed, and induces a greater stability into the market. Stability is an important factor in cost, because many of the costs of housing are reflections of the inherent and unstable fluctuations in house building. Anything we can do to stabilize the industry will ultimately be reflected in lower costs.

Then there are three loan programs. One lends to the manufacturer of prefabricated houses; another provides loans to colleges and universities for college housing; and there are loans to municipalities for advanced planning of non-Federal public works. Here is a wide variety of activities, all contributing to lower cost and better quality of housing in one way or another.

In general, the research program is directed towards a broader, long-term program aiming at the rationalization of production processes in housing. Its purpose is to reduce waste and inefficiency, to cut costs, and raise quality; its methods are varied. First, we try to induce stability in the building industry, and to improve the balance of production in housing, so that a greater share is produced for persons of lower income with a somewhat lesser share at the top of the market. Private decisions on the one hand, or public policy decisions on the other, will be better decisions if they are based on better understanding of the phenomena involved. The more we know about processes of production in housing, and the better information we have with respect to what goes on in the industry, the greater the stability and lower the costs which can be achieved.

Once this has been partially achieved, the second step is the introduction of innovations, and modification of the various processes involved in house building which affect quality or cost. These may deal with materials, or with various components which go into the house, or with structural systems. They may deal with product design or with the industrial processes themselves, either in construction, distribution, or financing. There is always a better way of doing these things, measured in terms of efficiency.

Finally, innovations are of no value unless adopted, and so an important part of this program is to overcome obstacles to innova-

tion, and to try to effectuate their adoption by those engaged in the whole process of production.

The building code program is allied to this objective because so often building codes have been obstacles to innovation, although not by any means the only ones. There is needed a process of education, of dissemination of knowledge of newer and better practices.

The housing research program proceeds on this general basic approach, which I have attempted to outline briefly, with the purpose of inducing greater stability throughout the industry, through better understanding and more adequate information, through developing innovations, encouraging others to develop innovations, and trying to secure their adoption by whatever device is necessary.

Since January, 1950, when this program really got under way, the Congress has provided a fairly substantial amount of money for purposes of the housing program. In addition to the administrative problems of building up an organization and getting it under way, some progress can be counted in the area of improved housing information. We have been working with Howard Brunsman, representing the Census Bureau, in the development of techniques for intercensal surveys so that we can secure information about the state of housing more frequently than every ten years. The same kind of thing is being done with the Bureau of Labor Statistics, so that we may have better facts, a better flow of facts, with respect to house construction, filling in some of the gaps that now exist.

Our own staff also engages in research to some extent. For instance, in the prefabrication fields, in which our agency now has a very specific stake, we are doing staff research in an effort to evaluate the status of the prefabricating industry, and to try to determine how some of its difficulties may be overcome. We are also doing staff research in general analyses of housing demands which relate to the agency's broad responsibilities in the housing field.

We are attempting to stimulate and coordinate others' research activities. There are a number of cooperative-type enterprises that I might mention to you. One of the most promising kind is taking form in Chicago, where Structural Clay Products Institute (a trade

association of brick manufacturers) having appropriated money for research and set up an arrangement with the Illinois Institute of Technology, is interested in some of the same things we are. We are developing a joint project utilizing cooperation with the Chicago Housing Authority to permit the use of some of their structures for test purposes. So we have the housing authority, the federal agency, and a trade association engaged in a cooperative venture. There are others of that kind that are in process or being planned.

The bulk of our activity, however, is carried on through the contract device, where projects which are in accordance with our broad program are contracted out to universities or nonprofit research organizations. We now have contracts with twenty-two different universities, with eight different federal agencies, and with the Building Research Advisory Board, and the Southwest Research Institute, neither of which quite classify exactly under the first two categories.

Our contract arrangements involve some sixty research projects, and a total of \$1,400,000. To give you an idea of the kind of thing in which we are engaged, let me indicate a very few examples.

At Columbia University, a study is in process dealing with residential mobility, intra-city mobility, looking to the reasons for which people change their housing accommodations.

Another survey, this time in the field of market analysis, has been designed to help in making local decisions with respect to housing. An attempt is being made, at the University of Denver, to improve vacancy statistics and to develop a sampling system whereby vacancy data may be economically secured.

We have a study going on at the University of Pennsylvania dealing with building products distribution. We have another at the University of Michigan in the field of cost accounting for builders. We have started a survey, being carried on by the Bureau of Labor Statistics, of cooperative housing projects around the country which will attempt to indicate the reasons for their success or failure.

In the field of interracial housing, a management type study is already going which will attempt to capture the experience in proj-

ects where integrated occupancy is being practiced. We have several projects in the financing field; one, for example, at the University of Washington, dealing with the subject of construction money, which is a troublesome problem for the building fraternity.

The problems of dwelling space and room arrangement have caused us a great deal of concern. We have two projects which, to my mind, are experimental ventures, one being conducted by a group at the University of Michigan, which will attempt to test decisions of recent home purchasers, and to evaluate the reasons why they selected housing having certain design features. That is a behavior study of people and their decisions in choosing housing, trying to relate them to their social and economic characteristics.

A second experiment in that direction is going on at the University of Illinois. It involves the laboratory approach and the establishment of a house with moveable walls and partitions, and I am told to expect that even the bathroom will be utilizing rubber piping, so that it can be shifted about with the structure. There is an attempt to actually test occupancy of families under conditions which can be shifted or modified, and to study their behavior under those conditions.

Dealing with structural components of housing, the project at Pennsylvania State, for example, is attempting to evaluate the long-term effect of weather on full-sized wood frame structures, involving thirty or forty different ways of building a wall and installing the insulation, and testing the effect on paint failures, and on wood rot, and so forth.

One of Charlie Ascher's remarks reminded me of a small project involving the gathering of data on snow loads around the country for the specific purpose of setting specification standards for roof construction.

There is one project on the stiffness requirements in wood floors at the Forest Products Laboratory. Great debates go on, I understand, as to whether a floor should be able to hold twenty pounds or thirty pounds per square foot.

There is also one relating to volumetric change of moisture

content in concrete building units, in short, the cracking problem in cement block. There is another concerned with fire resistance in wood frame dwellings. There is one in the housing sanitation field in which this group may have an interest; we have a cooperative arrangement with the Public Health Service on household sewerage disposal systems which has been running for a year or so.

We have another two studies on plumbing, one in Illinois and one at the Bureau of Standards, for the purpose of attempting to devise cheaper ways of building plumbing systems without endangering health; another one dealing with performance requirements for building sewer materials, looking for substitutes for usual sewer materials, which, of course, has great significance as we enter a period of material shortages; and one chimney research project. The Bureau of Standards has concluded that a chimney flue about half the usual size, is more efficient, less of a fire hazard, and, of course, costs less.

Well, there are many others. One I do want to mention, because it relates to what Mr. Miller has just been discussing, is a project at Tuskegee on self-help housing. Tuskegee has, for some years, been working along these lines. They have been inadequately staffed, and unable to proceed rapidly. They are, at the moment, working with ten to twelve families in developing not only the technology of self-help housing in that area, but also the working arrangements and the administrative and financial aspects, in attempting to devise a technique from top to bottom that would be of assistance to low-income families in the semi-rural areas and rural areas.

I haven't mentioned nearly all of sixty projects, nor have I had time to discuss our future. However, it is my conclusion, and perhaps a forgivable one, that this instrumentality of research offers great promise toward healthful housing. We cannot solve the problems by financial means entirely. Because there are no panacea in this field, we must adopt a very comprehensive approach, and attack at all points the whole process of providing housing space and utilizing housing space. By small advances at many, many points, we will, in the long run, I think, succeed in making real progress.

We cannot make progress if we concentrate all our attention at

one point, nor can we succeed unless we have a cumulative and continuing program. We will fail if dependency is placed entirely on the Federal government. I am frightened by reports I hear occasionally that some foundation, or voluntary agency, has stated that it is going to withdraw from housing research now because the Federal government is going to take over. That represents a very dangerous philosophy. We cannot depend on the Congress, nor can we depend on any one organization to do this job.

SUMMARY

C. E. A. WINSLOW

I SHOULD like to thank all of you; thank the speakers and also all the members of this series of panels, because the discussions have been very free. I think there is no one who has not contributed generously.

As we look back over these three sessions, those who planned this meeting are enormously pleased with the general results. We reviewed yesterday morning the question of sub-standard housing. Mr. Pond presented to you the "appraisal method" which seems to furnish an extremely helpful tool in the diagnosis of housing disease. Dr. Krumbiegel discussed the problems involved in the preparation of a code for occupied dwellings, and Dr. Williams reported on the extremely interesting and promising "Baltimore Plan" of securing what might be called temporary or palliative rehabilitation.

Then we proceeded yesterday afternoon to consider housing of the future, the things we would like to accomplish, such as the development of an adequate neighborhood. I was particularly impressed with the emphasis that emerged in the discussion on regional planning. We have done a lot of talking about regional planning, but as pointed out in that discussion, there is probably only one place where it is definitely and effectively in use.

Mrs. Watkins gave us background data on the importance of having a house large enough, and Mr. Churchill discussed the construction and equipment of the home.

Mr. Ascher and Mr. Ratcliff have introduced the tremendously important problem of code-making. I think we are all agreed that the codes yet to be developed should be based on demonstrable physiological and psychological needs, and that they should have the widest possible flexibility within the limits defined by those physiological and psychological needs.

I suspect we are wholly agreed that the first great barrier to

progress in this matter is localization of planning in 2,000 small areas, each with its different code. The second is certainly the existence of the fantastic specification codes in use. I think we have got to work very hard to get the idea of performance codes accepted. You will have noted, of course, that the performance code implies a large area. You cannot possibly use a performance code effectively without a highly expert staff, which means, so far as I can see it, that they can be assured only for large cities and for states.

Local administration must carry out measures for improvement of substandard and protection of standard dwellings, then there certainly should be some sort of unification of local inspection service for this purpose. Some think the health department might well take the lead in securing that kind of cooperative control, but we surely need much more effective cooperation between the health, the police, and the fire departments, and the various special groups set up for this purpose.

Today some very encouraging vistas have been opened, as to what can be done to bridge the gap between the cost of minimum decent housing and what people can afford to pay for rent. First of all comes continued development of rational codes. As suggested yesterday, it is certain that the cost of plumbing could be cut by one-quarter and perhaps by one-half by a few strokes of the pen in these codes, and there are many other similar possibilities. Secondly, improvement in code-making procedure can be used for stimulation of pioneering efforts by the building industry.

A third suggestion offered in some of the discussion was the development of a better, more effective organization of the building industry itself. I think you are all familiar, in principle, with the quite needless costs that are involved in many of the procedures that are used both by capital and labor in the building business.

Mr. Miller has presented a very interesting example re-enforced by what Dr. Krumbiegel said about Sweden in regard to the use of tenant labor, a method well worth further exploration.

Mr. Ratcliff's research studies, I think, will go very far to making possible improvements along this line.

Just one word, however, about the gap that will still remain. We

must, I think, guard against being lulled into the idea that we have any panacea for this problem of bridging the gap between people's housing needs and what they can pay for. The facts, of course, are very simple. The actual figures differ in different parts of the country, but we know, for instance, in New Haven, that you cannot privately build new building units of a decent type and rent them for less than \$90 a month. Actually, of course, most are renting for more than that. We must din into the ears of those who don't realize it that it requires an income of \$5,400 to support a \$90 rental; and you have only to look at the charts showing the distribution of population by income to see that that is a large section of the population.

In Connecticut, we have, as undoubtedly do many other states, a system of state aids to what is called "moderate-income housing." It doesn't involve any subsidies, but it does involve cutting down of profit, and implies borrowing money from the State at very low interest rates. Under that law, we can provide housing at \$60 a month for people whose annual incomes are \$3,600. But for a very large section of the population, which can buy only \$30-housing, we must still resort to Federally-subsidized housing. That is the principle under attack by the National Real Estate Board lobby. As a result of the recent referendum that little or no more public housing will be possible in the State of California, but I think we must be prepared to fight for this principle.

This is an important movement, and I think this meeting has helped to consolidate the feeling of a number of different groups as to the task ahead. The first thing we need is research, and evermore research on the engineering side, on the social side, on the economic side. I think the really splendid program that Mr. Ratcliff has outlined is one of the most encouraging signs on the horizon.

Then we need, as has been brought out again and again here, a much greater degree of interprofessional cooperation. One of the main purposes of calling this conference was to demonstrate that good housing doesn't concern the health officer, or the engineer, or the architect, or the planner alone. We have all got to work together, and I think during these two days we have learned a little better how to work together, and what we are aiming at.

As several speakers have indicated, we must not stop at willingness to cooperate. We have then to proceed to a vigorous educational campaign. There must be public motivation behind all these endeavors. The people of our communities must understand what the needs of housing are, what good housing is, and how good housing can be obtained. That is the final step that we must take before we can progress as we should in this program for decent housing for America.

TWENTY-SEVENTH ANNUAL CONFERENCE OF THE
MILBANK MEMORIAL FUND

PARTICIPANTS AT THE ROUND TABLE
ON HOUSING AND HEALTH

NOVEMBER 15-16, 1950

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